MEMORANDUM

TO: Jolene Kiolbassa, Chair, and Members of the Zoning and Platting Commission

FROM: Christopher S. Herrington, P.E., Interim Environmental Officer
Watershed Protection Department

DATE: September 26, 2018

SUBJECT: Camelback Planned Unit Development – C814-86-023.01

This memo provides a status update on environmental protection issues associated with the proposed amendment of the Camelback Planned Unit Development (PUD), including consideration of the conditions recommended by the Environmental Commission on September 19, 2018. Additionally, this memo contains as an attachment a presentation summarizing the project and the comparisons between the existing PUD and the proposed PUD along with staff recommendations.

The proposed PUD contains elements that are both environmentally superior as well as elements that are not environmentally superior relative to the existing PUD. Considering the full range of potential positive and negative impacts, staff finds that the proposed development would be environmentally superior to what could be built without the amendment to the PUD.

Superior Project Elements
The following items are superior in the proposed PUD amendment relative to the entitlements of the existing 1987 PUD:

1. The proposed PUD will provide at least 60.46 acres of permanently protected open space and 26.16 acres of dedicated park land, more than would be required under either the existing PUD or current code.
2. Impervious cover for the proposed PUD is capped at 21.86 acres and, including the proposed 2 acre reduction of impervious cover for the Champions Tract 3, is less overall impervious cover that the existing PUD and the existing development planned for Champions Tract 3.
3. Development within the PUD will comply with current tree protection and mitigation, except for the removal of six identified trees which, pending confirmation by the City Arborist, have been found by an arborist to be dead, diseased or dying.
4. The proposed PUD will provide protection for most critical environmental features (CEF). CEFs were not required to be protected under the existing PUD. Although some

features have modified buffers and one karst feature is not protected, the overall buffer area is equivalent to the buffer area under current code.

5. The proposed PUD will treat 100% of the required stormwater runoff volume for water quality per current Land Development Code requirements, 75% of which will be treated through distributed green stormwater control measures. No water quality treatment is required under the existing PUD.
6. Public roadway and private drives shall clear span the 10-year storm elevation when crossing a waterway with a drainage area of more than 32 acres. This exceeds current code requirements.
7. Street crossings of the critical water quality zone shall span the 10-year storm elevation. This exceeds current code requirements.
8. An Integrated Pest Management Plan will be submitted for approval with each site plan application. All property owners within the PUD shall receive copies of the plan.
9. Outdoor lighting on the proposed PUD will be designed to incorporate dark sky lighting techniques.
10. An Austin Green Building rating of three stars or above will be achieved for all buildings in the proposed PUD.
11. All commercial buildings in the proposed PUD shall utilize non-potable water sources for irrigation of the building grounds, and air conditioner condensate for commercial buildings shall be directed to cisterns or landscaping on site for beneficial use.
12. Design of the dock facilities and dock access shall consider input from a design charrette made up of a group approved by the City and the developer to ensure the structure is protective of the environment and minimizes adverse visual aesthetic impacts.
13. Sewage lift stations within the Dock District shall include an emergency overflow tank and provide an oversized wet well to reduce the potential for sanitary sewer overflows to Lake Austin.

While not superior, the applicant will comply with current drainage, erosion hazard zone, and erosion control requirements.

Non-Superior Project Elements:

The proposed PUD includes multiple code modifications. Staff have worked collaboratively with the applicant to minimize the potential adverse environmental impacts of the proposed PUD amendment. The following project elements are not superior in the proposed PUD relative to the existing 1987 PUD:

1. The proposed PUD includes 5,000 ft^2 of impervious cover within the floodplain and within 50 ft of the shoreline setback in the Dock District for a clubhouse. Per a recommendation from the Environmental Commission, the gross floor area of the proposed clubhouse has been limited to 5,000 ft^2. While the area of the clubhouse, dock, and dock access is 12,500 ft^2, wetland mitigation of 18,700 ft^2 is proposed for an existing disturbed area.
2. To access the Dock District, the proposed PUD includes one mechanized access via one of two potential methods: an incline elevator from the Mixed Residential District or an elevator from the Commercial District. The mechanized access would encroach into the buffer of a critical environmental feature. Watershed Protection Department staff do not

support mechanized shoreline access. However, staff conclude that the elevator would result in less disturbance and negative environmental impact than the incline elevator. Either the incline elevator or the elevator shall span the critical environmental features such that no structural connections to the vertical face of bluff or rimrock are utilized. Any mechanized access shall utilize a non-hydraulic method or redundant fluid containment if a hydraulic method is used.

3. Overall critical environmental feature (CEF) protections for the proposed PUD are superior, as no CEF protections are required under the existing PUD. One karst feature is not protected. Some development will encroach into the buffer of the significant bluff (B-1). However, the bluff (B-1) is protected with at least a 100 ft setback in the Mixed Residential District. The significant bluff (B-1) is protected with a 50 ft setback for foundations and a 30 ft setback for any cantilevered construction or disturbance in the Commercial District.
4. The proposed PUD includes cut and fill up to 24 ft with up to 28 ft for fire lanes, although the total amount of cut and fill over 4 ft is limited as noted in the exhibits. The existing PUD allowed cut and fill up to 19 ft. All cut and fill over 4 ft in the proposed PUD shall be structurally contained using retaining walls.
5. The proposed PUD includes construction on slopes in excess of what would be allowed for the Lake Austin Zoning District and the existing PUD. The applicant has proposed to limit construction on slopes greater than 35% to not more than 1.09 acres in area. Staff recommend that construction on slopes be limited in total area, with area limits for each slope category and by proposed PUD district.
6. The proposed PUD is seeking to extend site plan and preliminary expiration dates to 7 years after the date of site plan or preliminary approval. Current code with extension options expires site plans after 4 years.
7. The proposed PUD includes a cluster dock for private use only that is 18,720 ft^2 in footprint. While the cluster dock would comply with the 30 ft length requirement of current code, the cluster dock is proposed to be located up to 75 ft from the shoreline to minimize dredging and shoreline disturbance. Dock construction would occur by barge from the lake to minimize impacts to the shoreline and critical environmental features. All motorboats will be moored or stored within the dock footprint. Other than in the Dock (D), no other docks will be allowed along the shoreline. No shower facilities, fuel storage, or commercial watercraft rentals are allowed on the dock. No intense recreational use shall be allowed within the Shoreline Recreation Area, and swimming areas within the Dock District shall be restricted in size and location to be protective of public safety, navigation safety, and shoreline integrity.
8. The proposed PUD includes development within the 100-year floodplain. Watershed Protection Department staff do not support a variance to allow development within the floodplain. Approval of the PUD by Austin City Council would constitute approval of a floodplain variance. Watershed Protection Department staff propose additional conditions to protect public safety should the floodplain variance be approved with the proposed PUD.

Conditions from the Environmental Commission:

On September 19, 2018, the Environmental Commission determined that the proposed PUD amendment is environmentally superior to the 1987 PUD with conditions. To date, all of the

conditions recommended by the Environmental Commission have been addressed in PUD notes and exhibits except:

- Adjacent property compatibility setbacks may need further evaluation by Zoning and Platting Department staff.
- The Environmental Commission recommended that engineering solutions that exceed the Environmental Criteria Manual requirements shall be provided for all construction on slopes greater than 25%. Staff are continuing to work with the applicant to identify feasible means to satisfy this recommendation.
- The proposed PUD includes a cluster dock 18,720 ft^2 in footprint. The Environmental Commission has recommended that the cluster dock be limited to 14,400 ft^2 in footprint.
- The proposed PUD includes a cluster dock that is 30 ft in length but may extend up to 75 ft from the shoreline. The Environmental Commission recommended an evaluation of reducing the distance of the dock from the shoreline to 60 ft to reduce the potential for navigation safety concerns. Bringing the proposed dock closer to the shoreline would substantially increase the amount of dredging necessary and may reduce the area proposed for wetland restoration. Watershed Protection Department staff prefer limiting the amount of dredging and impacts to the shoreline over bringing the dock closer to the shoreline.

Attachments

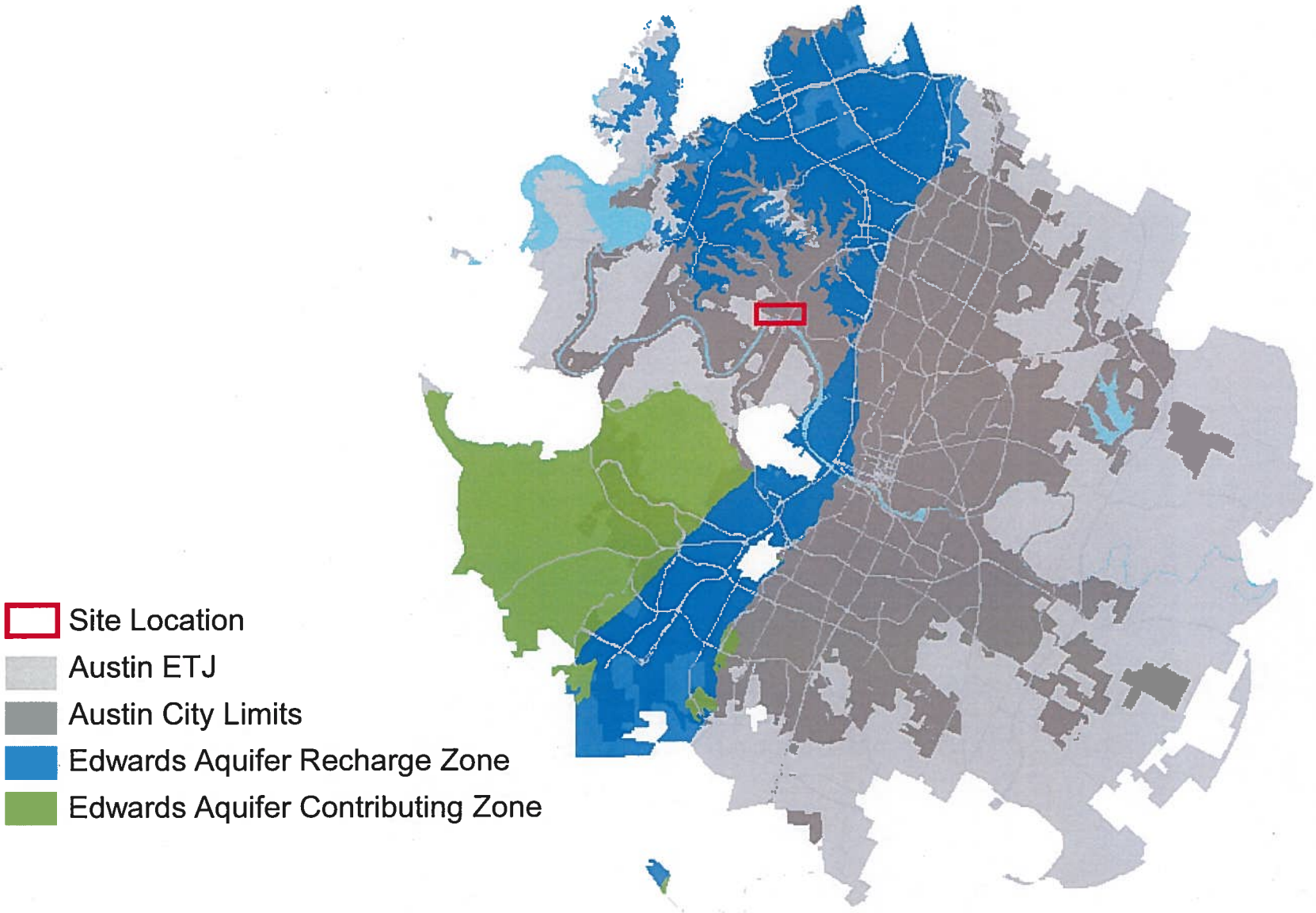
Attachment 1: Presentation Summarizing Environmental Superiority

Camelback PUD

C814-86-023.01

Atha Phillips, Environmental Program Coordinator

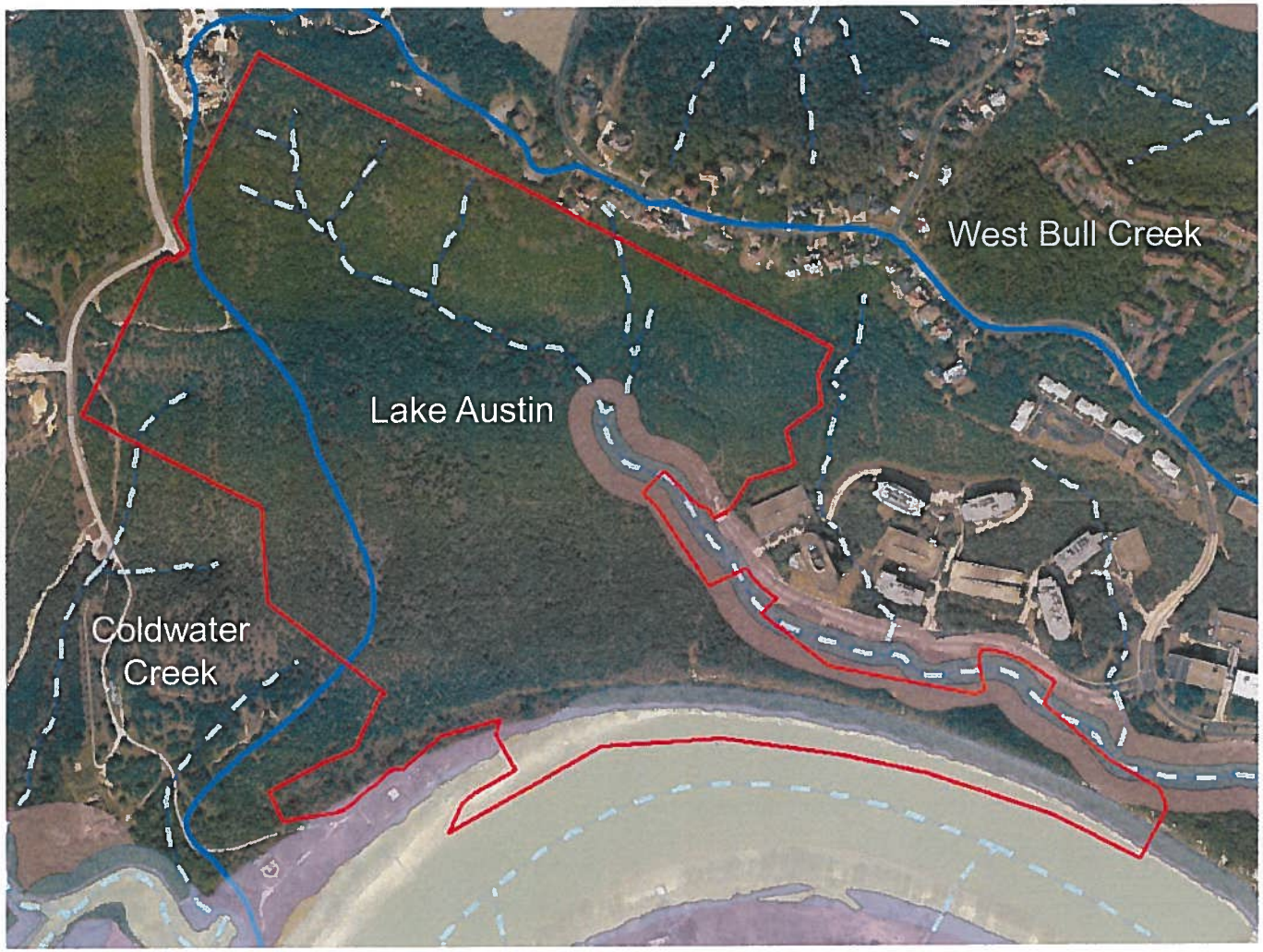
Watershed Protection Department


Site Location
Austin ETJ
Austin City Limits
Edwards Aquifer Recharge Zone
Edwards Aquifer Contributing Zone


City Park Rd
FM 2222
Bridgepoint
West Courtyard
Bridgepoint
360
Bunny Run

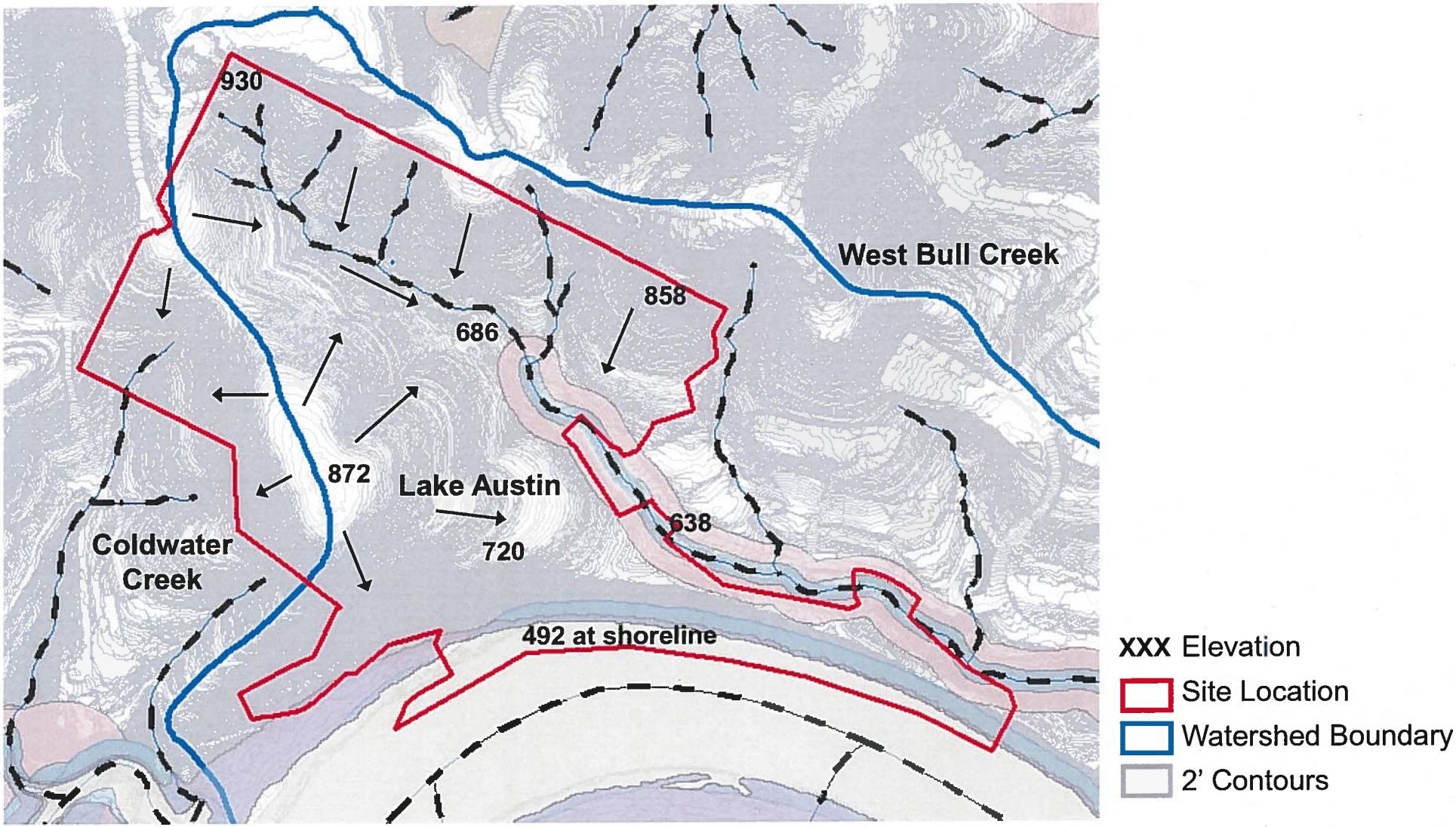
Background:

- 138.19 acres of land and 6.467 acres of water
- Lake Austin watershed
- Water Supply Rural
- Drinking Water Protection Zone
- Proposed revision to an existing PUD with 64 single family homes
- Addition of land from Coldwater PUD
- Bridgepoint Parkway extension is within the existing and proposed PUD
- Numerous CEFs exist on site
- Council District 10

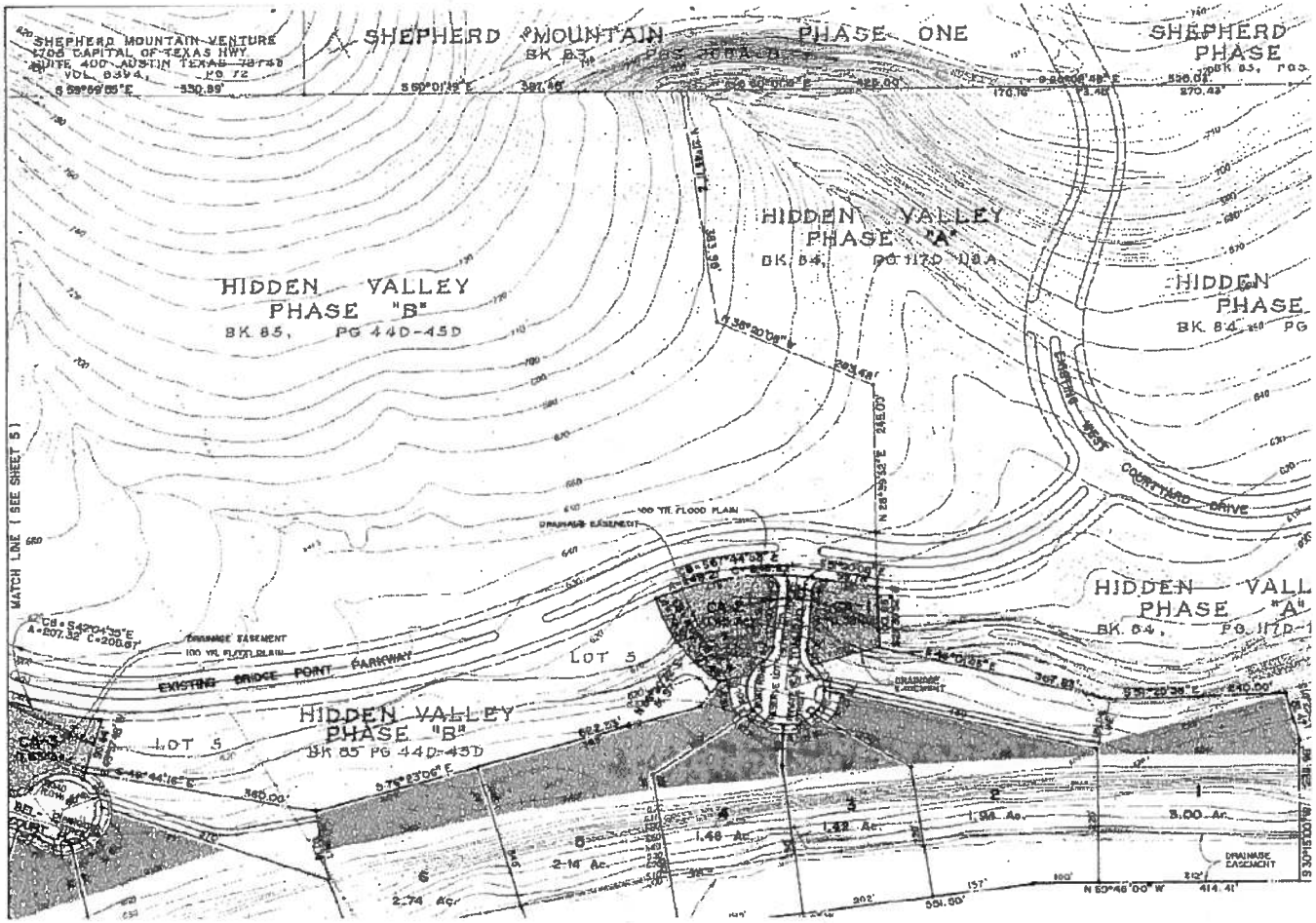


Site Location

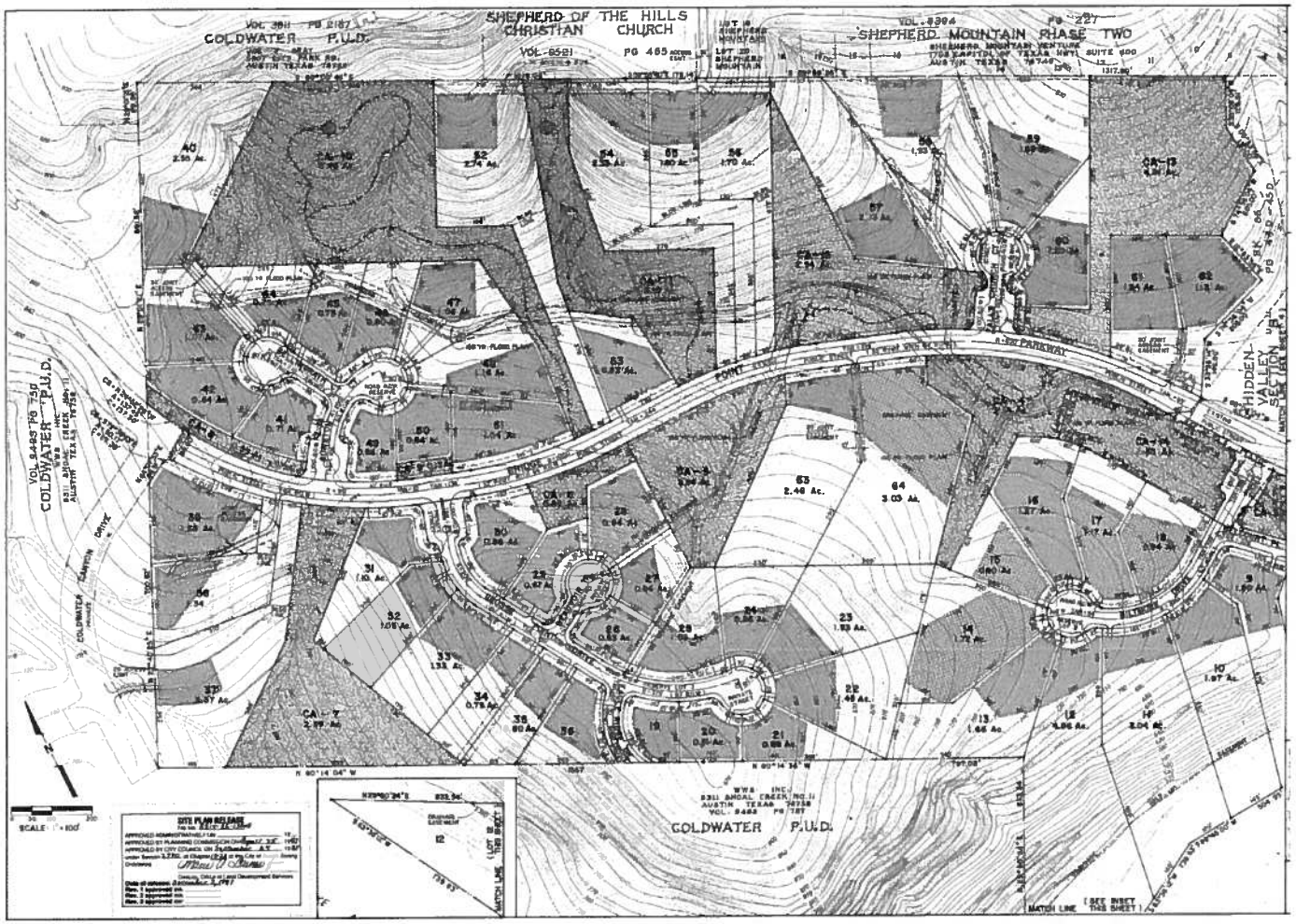
Watershed Boundary


930
West Bull Creek
858
686
872
Lake Austin
638
720
Coldwater
Creek
492 at shoreline
XXX Elevation
Site Location
Watershed Boundary
2' Contours

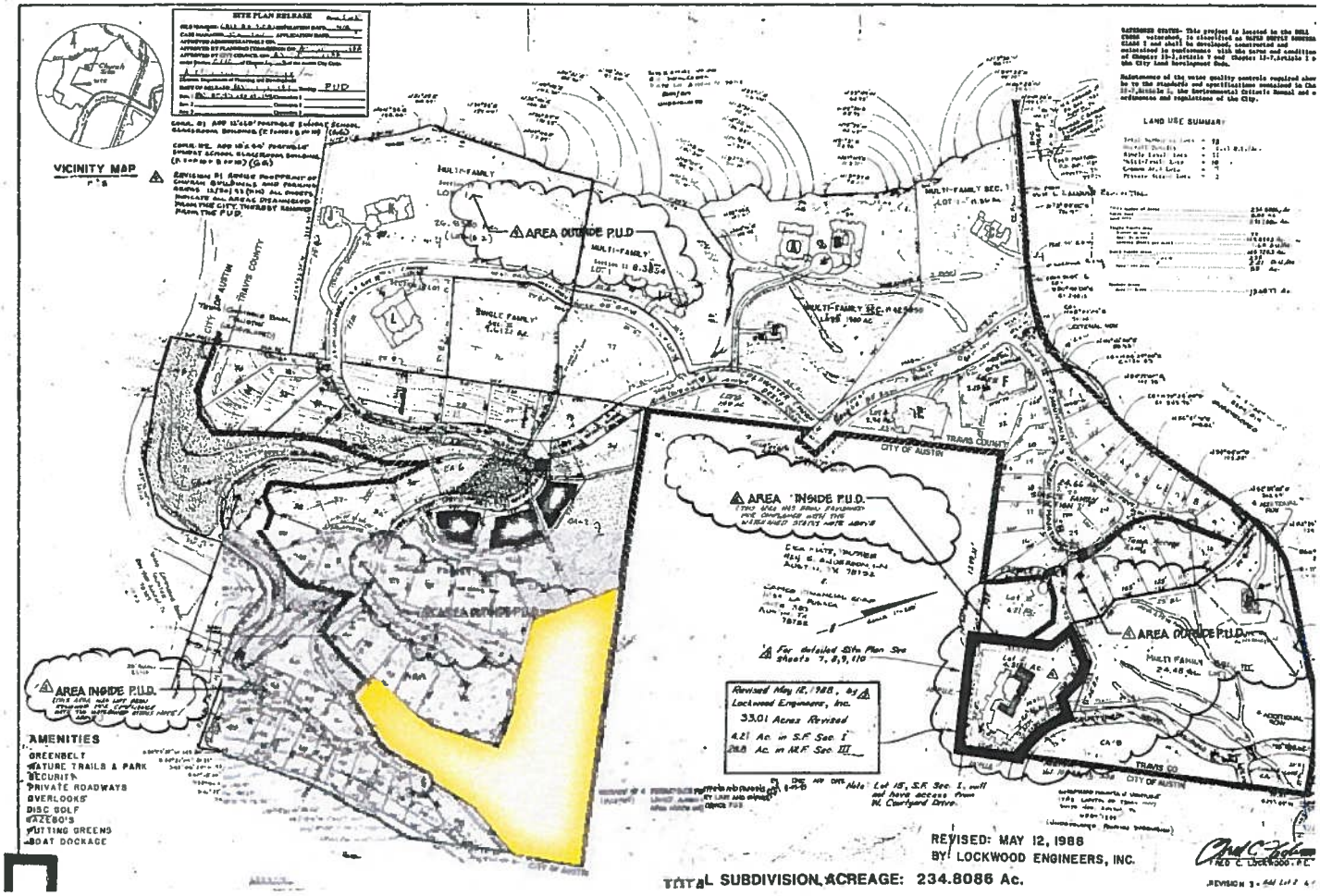
Existing PUD-Hidden Valley



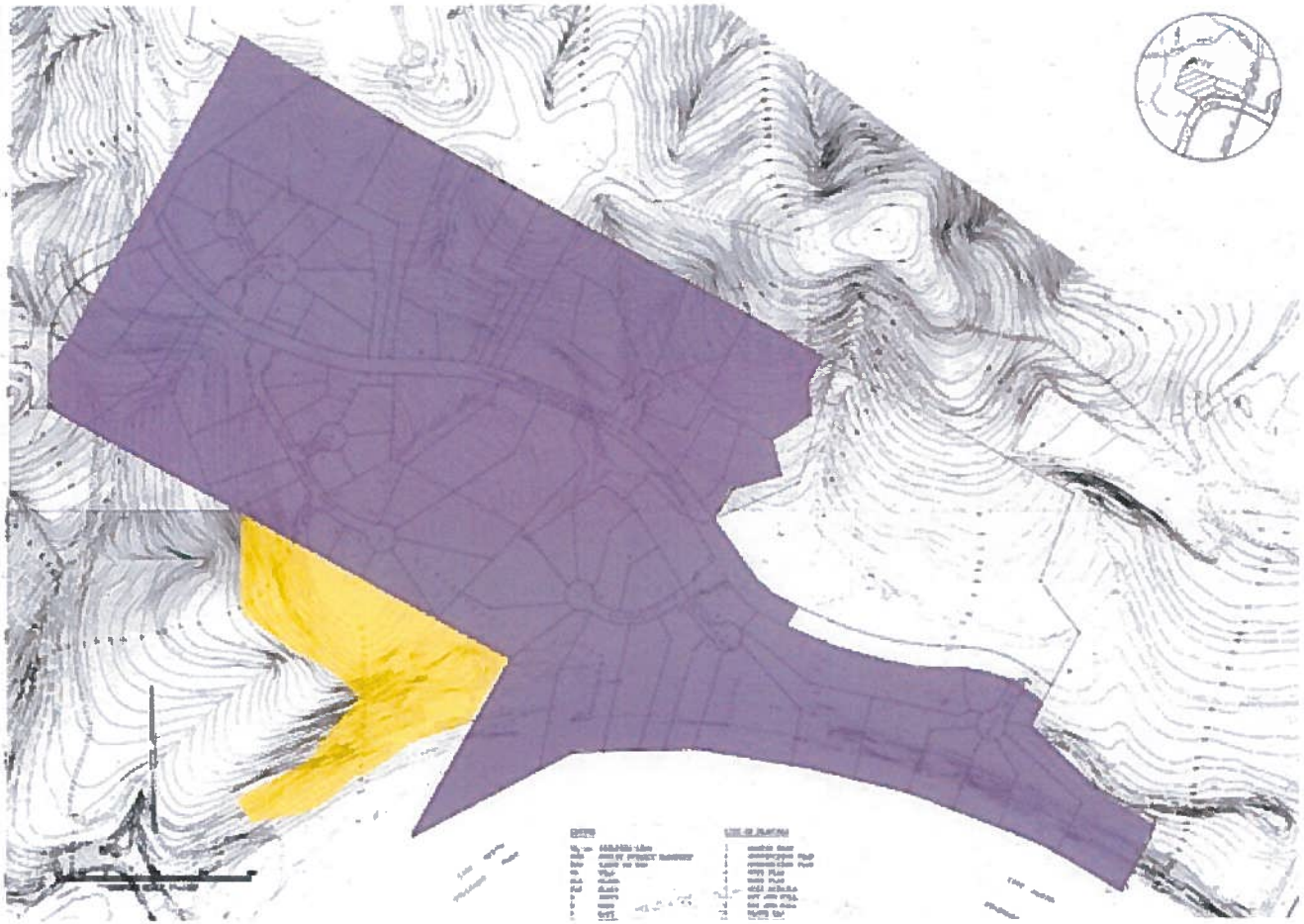
Existing PUD-Hidden Valley



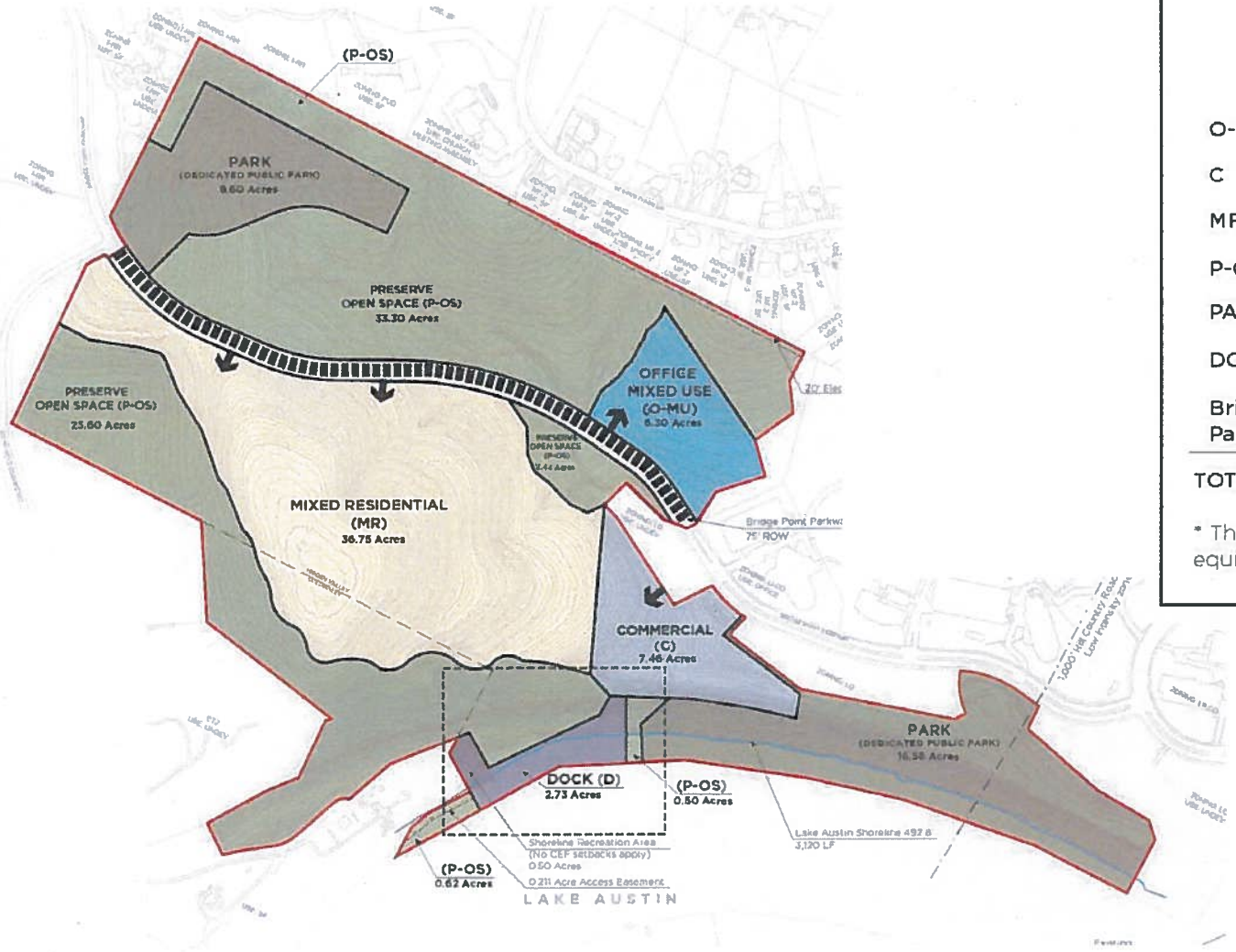
Existing PUD-Coldwater



Existing PUDs



Proposed PUD-Land Use



DISTRICT SUMMARY

OVERALL SITE AREA: 144.817 AC.

O-MU	6.30 AC.	4%
C	7.46 AC.	5%
MR	36.75 AC.	26%
P-OS*	60.46 AC.	42%
PARK*	26.16 AC.	18%
DOCK	2.73 AC.	2%
Bridge Point Parkway ROW	4.96 AC.	3%
TOTAL	144.82 AC.	100%

* The total proposed Open Space is 86 62 Ac., equivalent to 60% of the total site area

Comparison:

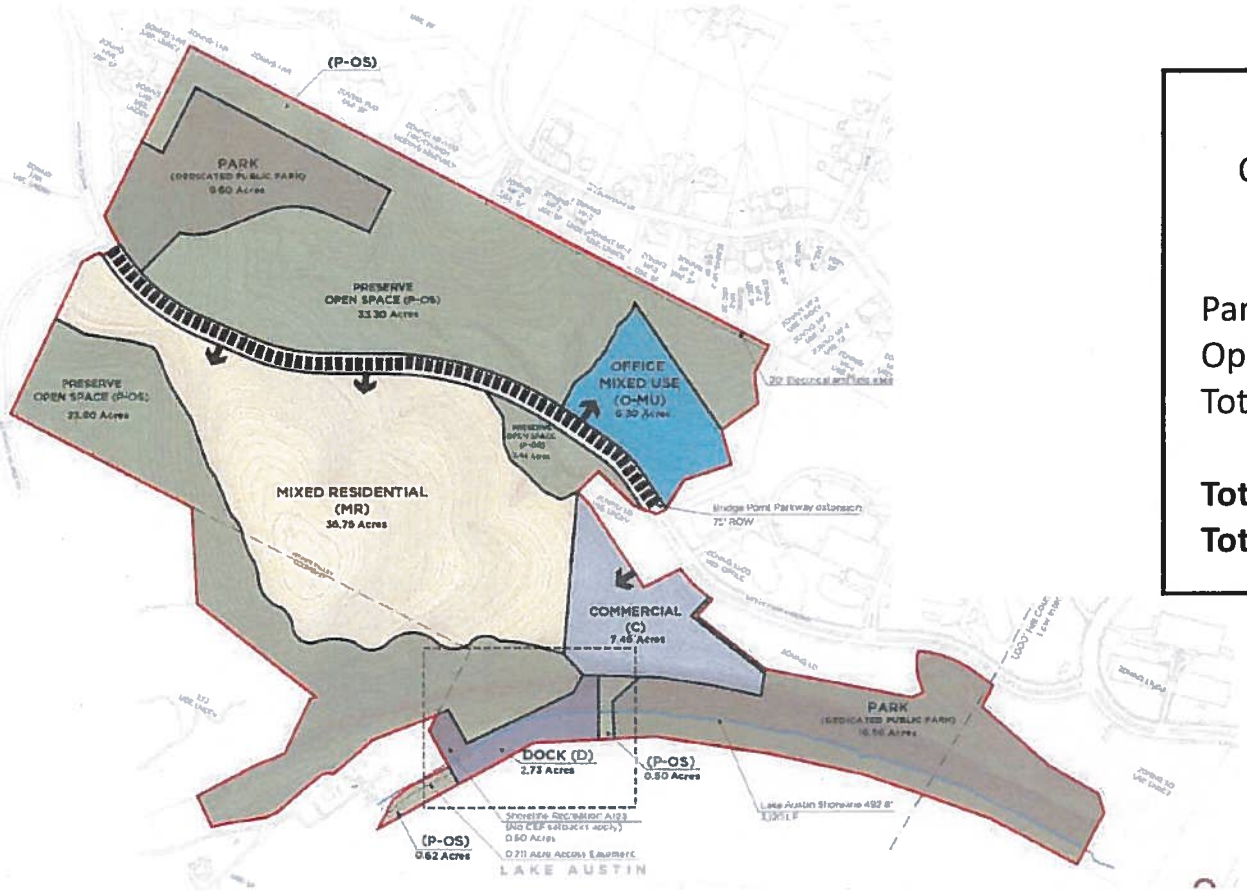
Land Use

Existing Code	Existing PUD	Proposed PUD
Commercial, Multi-Family, and Mixed Use	Hidden Valley: 64 Single Family Homes Coldwater: 5 Single Family Homes	Commercial, Multi-Family, and Mixed Use

Parks and Open Space

Existing Code	Existing PUD	Proposed PUD
Park: 7.9 acres Open Space: 6.9 acres **Total: 14.8 acres**	Hidden Valley: 32.55 acres Coldwater: 6.88 acres **Total = 39.432 acres**	Park: 26.16 acres Open Space: 60.94 acres **Total = 86.62 acres** ✓

Proposed PUD: Parks and Open Space



District Summary

Overall Site Area 144.817 acres

138.19 land and 6.467 water

Park	26.16 acres
Open Space	60.46 acres
Total	86.62
Total Land	**80.15 acres**
Total Water	**6.467 acres**

Comparison:

Water Quality

Existing Code	Existing PUD	Proposed PUD
½" plus for 100% of site	None required (<20% Impervious Cover)	½" plus for 100% of site 75% of captured water quality will be treated by green storm infrastructure ✓

Drainage and Erosion Controls

Existing Code	Existing PUD	Proposed PUD
Current Code at time of Site Plan	Current Code at time of Site Plan	Current Code at time of Site Plan

Comparison:

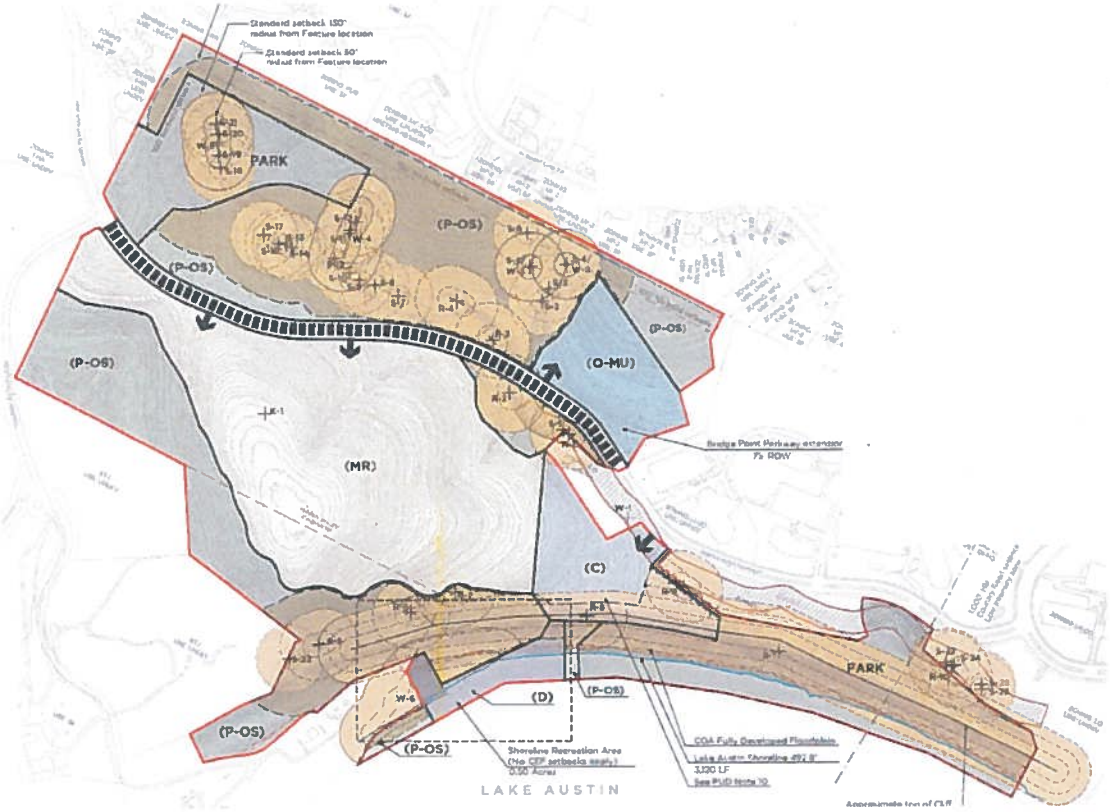
Critical Water Quality Zone and Crossings

Existing Code	Existing PUD	Proposed PUD
Current code for CWQZ buffers and 1 variance required for crossing CWQZ buffer	No creek buffers	Proposes 2 crossings 1-Bridgepoint Pkwy 1-(C) Lot access Will span the 10 year high water mark ✓

Critical Environmental Features

Existing Code	Existing PUD	Proposed PUD
CEFs protected with 150' buffer	Identification required but no buffers	Disturbance is located within some buffers but overall better protection ✓

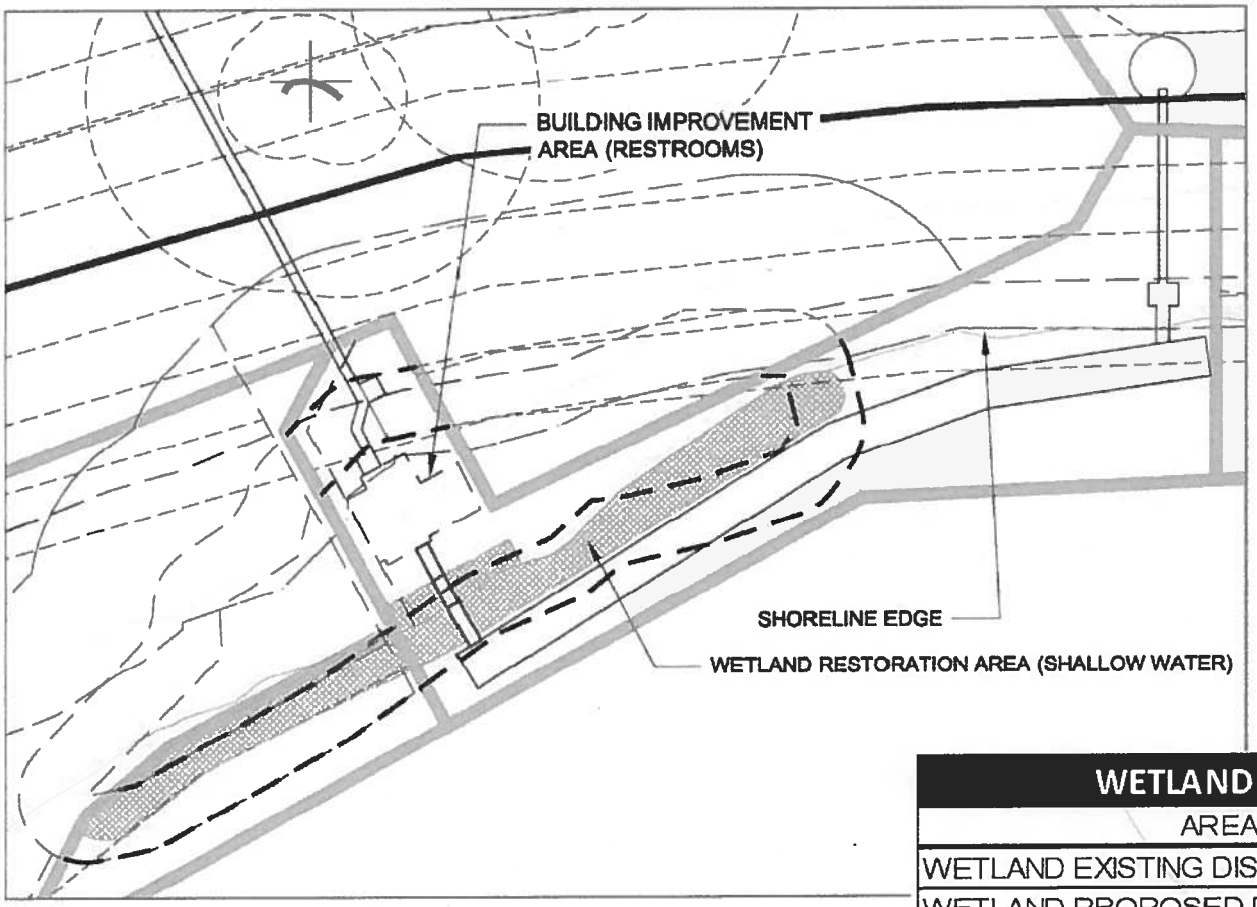
Proposed PUD: CEF Buffers



CRITICAL ENVIRONMENTAL FEATURES

Feature Type	Feature ID	Protection
Spring/Seep	S-1	Setback - Impacted by Bridgepoint Parkway
Spring/Seep	S-2	Standard 150' Setback
Spring/Seep	S-3	Standard 150' Setback
Spring/Seep	S-4	Standard 150' Setback
Spring/Seep	S-5	Standard 150' Setback
Spring/Seep	S-6	Standard 150' Setback
Spring/Seep	S-7	Setback - Impacted by Bridgepoint Parkway
Spring/Seep	S-8	Standard 150' Setback
Spring/Seep	S-9	Standard 150' Setback
Spring/Seep	S-10	Standard 150' Setback
Spring/Seep	S-11	Standard 150' Setback
Spring/Seep	S-12	Standard 150' Setback
Spring/Seep	S-13	Standard 150' Setback
Spring/Seep	S-14	Standard 150' Setback
Spring/Seep	S-15	Standard 150' Setback
Spring/Seep	S-16	Standard 150' Setback
Spring/Seep	S-17	Standard 150' Setback
Spring/Seep	S-18	Standard 150' Setback
Spring/Seep	S-19	Standard 150' Setback
Spring/Seep	S-20	Standard 150' Setback
Spring/Seep	S-21	Standard 150' Setback
Spring/Seep	S-22	Standard 150' Setback
Spring/Seep	S-23	Standard 150' Setback
Spring/Seep	S-24	Standard 150' Setback
Spring/Seep	S-25	Standard 150' Setback
Spring/Seep	S-26	Standard 150' Setback
Rimrock	R-1	Setback - Impacted by Bridgepoint Parkway
Rimrock	R-2	Setback - Impacted by Bridgepoint Parkway
Rimrock	R-3	Setback - Impacted by Bridgepoint Parkway
Rimrock	R-4	Setback - Impacted by Bridgepoint Parkway
Rimrock	R-5	Standard 150' Setback
Rimrock	R-6	Modified Setback - Setback limited to Preserve OS district
Rimrock	R-7	Modified Setback - 30' Setback
Rimrock	R-8	Modified Setback - 30' Setback
Rimrock	R-9	Modified Setback - Multi Use Trail / Park Maintenance Vehicle access are permitted within setback.
Rimrock	R-10	Standard 150' Setback
Point Recharge Feature	K-1	Not protected
Wetland	W-1	Feature impacted due to vehicular access from Bridgepoint
Wetland	W-2	Standard 150' Setback
Wetland	W-3	Standard 150' Setback
Wetland	W-4	Standard 150' Setback
Wetland	W-5	Standard 150' Setback
Wetland	W-6	Modified Setback - Shoreline recreation area excluded from setback in Dock District.
Bluff	B-1	Modified Setback - Setback limited to allow for restaurant and elevator

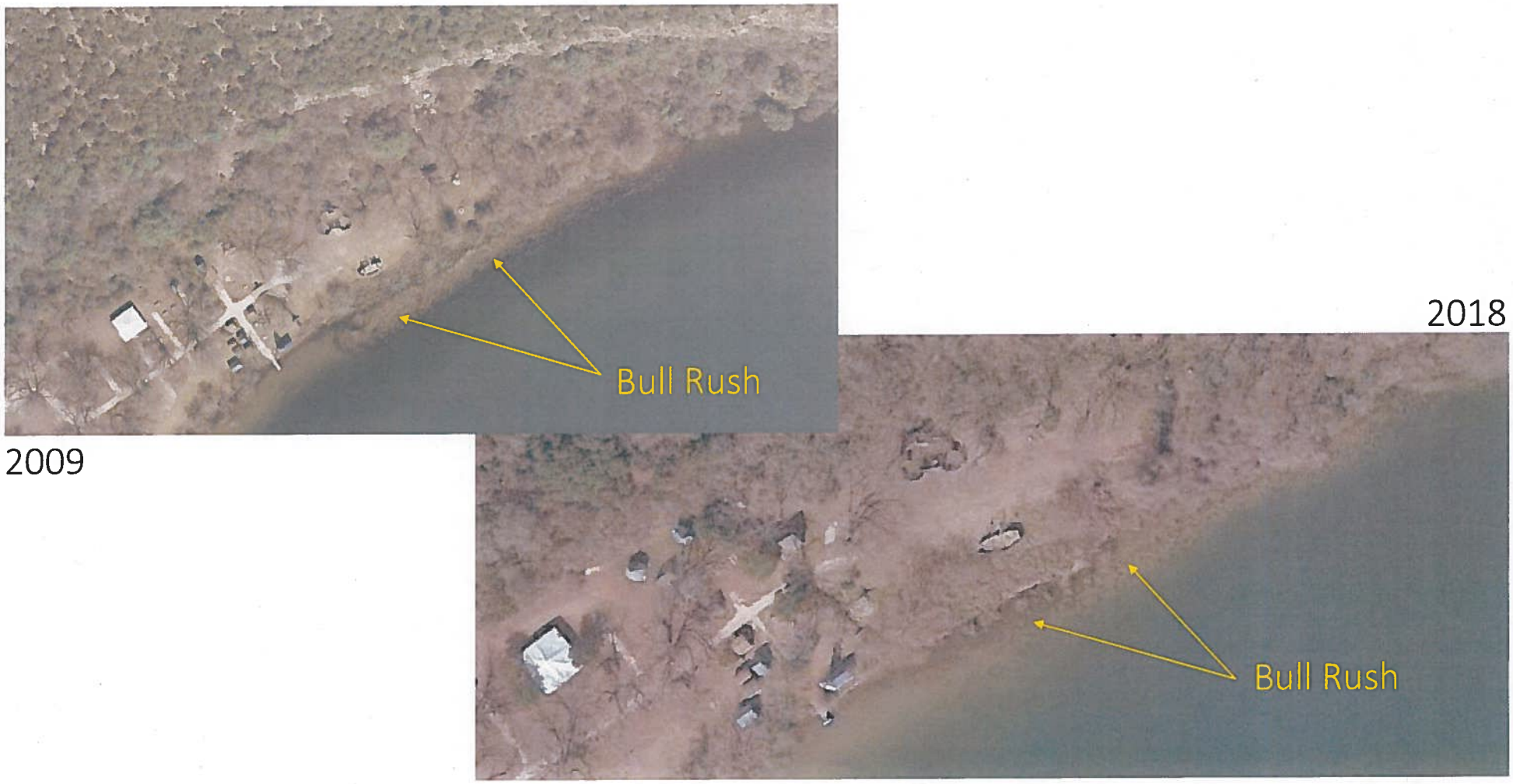
Proposed PUD: Shoreline and Wetlands



WETLAND RESTORATION

WETLAND CDEF W-6 MITIGATION SUMMARY	
AREA DESCRIPTION	SQUARE FEET
WETLAND EXISTING DISTURBED AREA	57,849.35
WETLAND PROPOSED DISTURBED AREA	13,133.23
WETLAND RESTORATION AREA	23,177.06

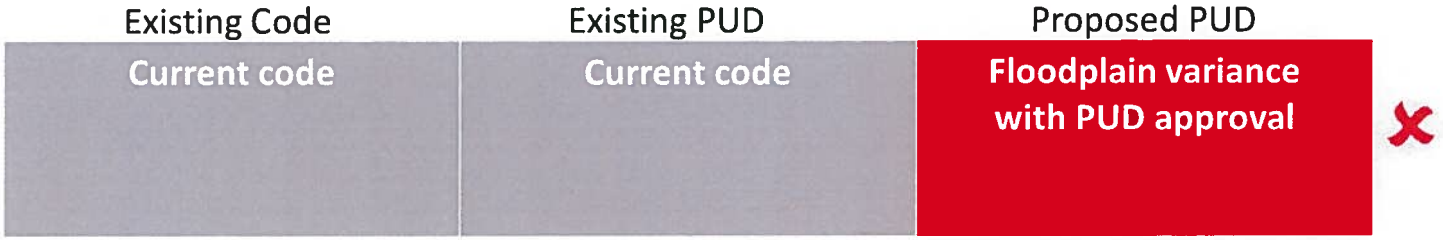
Wetland Restoration-Bull Rush



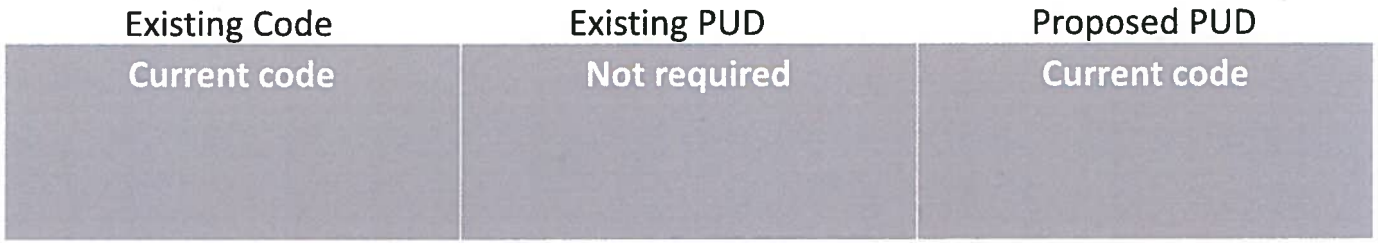



Comparison:

Floodplain



Erosion Hazard Zone



Comparison:

Impervious Cover

Existing Code	Existing PUD	Proposed PUD
20% NSA = 10.54 acres + 2 acres Champion Total = 12.54 acres	16.92 acres + 1.23 acres + 2 acres Champion Total = 20.15 acres	21.86 acres - 2 acres Champion Total = 19.86 acres

✓

Limits of Disturbance

Existing Code	Existing PUD	Proposed PUD
18.81 acres	30.02 acres	35.16 acres

✗

Comparison:

Cut

Existing Code	Existing PUD	Proposed PUD
Unlimited under buildings and road right-of-way, 4' elsewhere	Unlimited under buildings, 4' elsewhere Up to 19' granted for Bridgepoint Parkway and limited amounts for driveways to access lots	Up to 28' for fire lanes 20 to 24 ft: up to 0.27 acres 12 to 20 ft: up to 1.65 acres 4 to 12 ft: 5.31 acres

Fill

Existing Code	Existing PUD	Proposed PUD
Unlimited under buildings and road right-of-way, 4' elsewhere	Unlimited under buildings, 4' elsewhere Up to 19' granted for Bridgepoint Parkway and limited amounts for driveways to access lots	Up to 28' for fire lanes 20 to 24 ft: up to 0.27 acres 12 to 20 ft: up to 2.01 acres 4 to 12 ft: 6.80 acres

Cut and fill acreage can be transferred to lower amounts but not higher.

Comparison:

Construction on Slopes

Existing Code	Existing PUD	Proposed PUD
Road or driveway not allowed on slopes over 15% unless accessing 2 acres of 15% or less or 5 residential units. No Construction: Buildings on slopes 25%+ Parking lot on slopes 15%+ If Construction 15-25%: No more than 10% on 15%+ Must use terracing Must revegetate Stabilize slope	Construction limited per LA watershed regulations Single Family Slope 0-15% 35% IC Slope 15-25% 10% IC Slope 25-35% 5% IC Slope 35% + 0 Commercial Slope 0-15% 65% IC Slope 15-25% 15% IC Slope 25-35% 5% IC Slope 35% + 0	Construction on slopes: More than 35% IC on slopes 0-15% More than10% IC on slopes between 15-25% More than 5% IC on slopes between 25-35% Construction on slopes greater than 35%

Comparison:

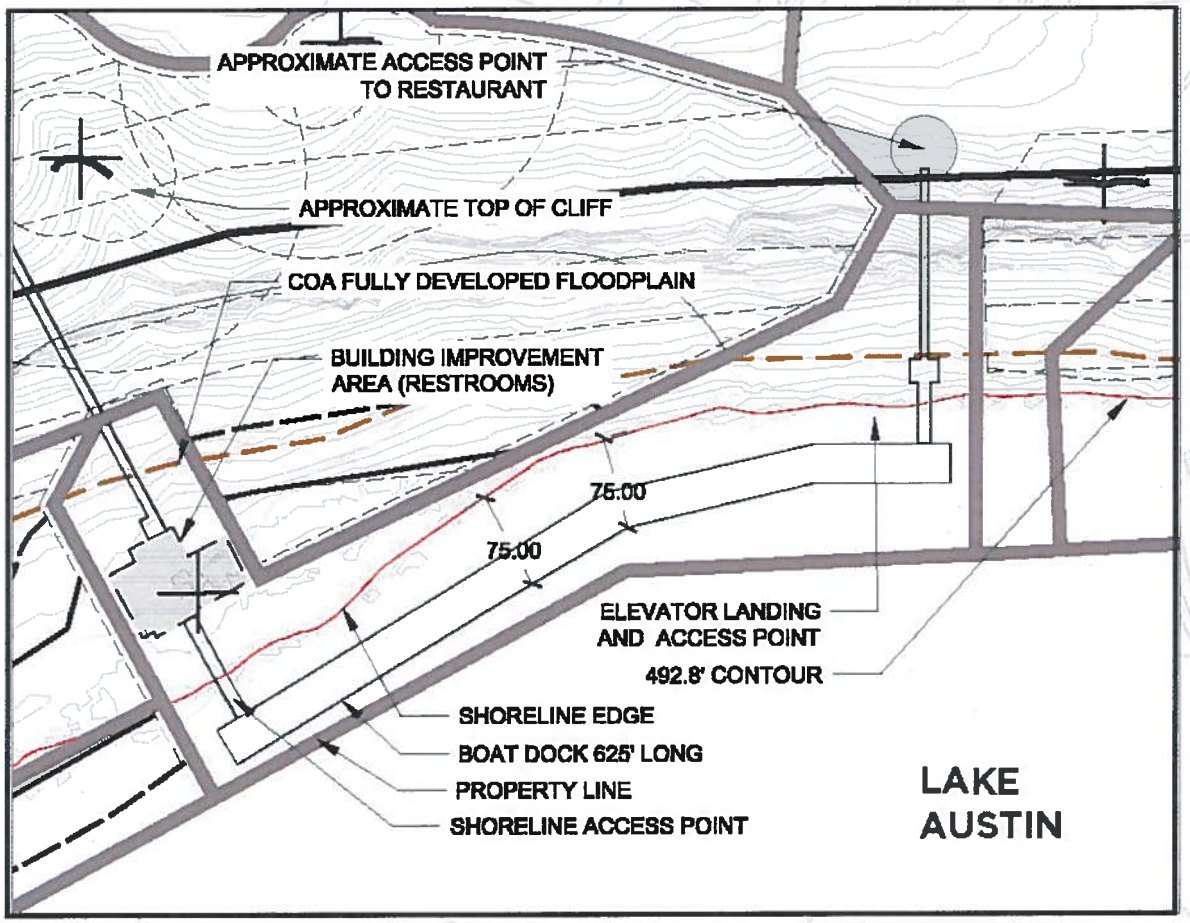
Boat Docks

Existing Code	Existing PUD	Proposed PUD
Cluster boat dock is limited by residential units 600sf/unit	12-2 slip docks Total = 14,400 sf	625 lf dock Total = 18,750 sf

Shoreline Access

Existing Code	Existing PUD	Proposed PUD
No Mechanized Access	No Mechanized Access	Mechanized access 1. Elevator 2. Tram

Proposed PUD: Boat Dock and Access



Proposed PUD: Shoreline

Proposed PUD: Access-Recent Bluff Calving

Proposed PUD: Access-Recent Rimrock Calving

70 Pascal Lane

Proposed PUD: Access-Tram Channelization

Comparison:

Tree Preservation

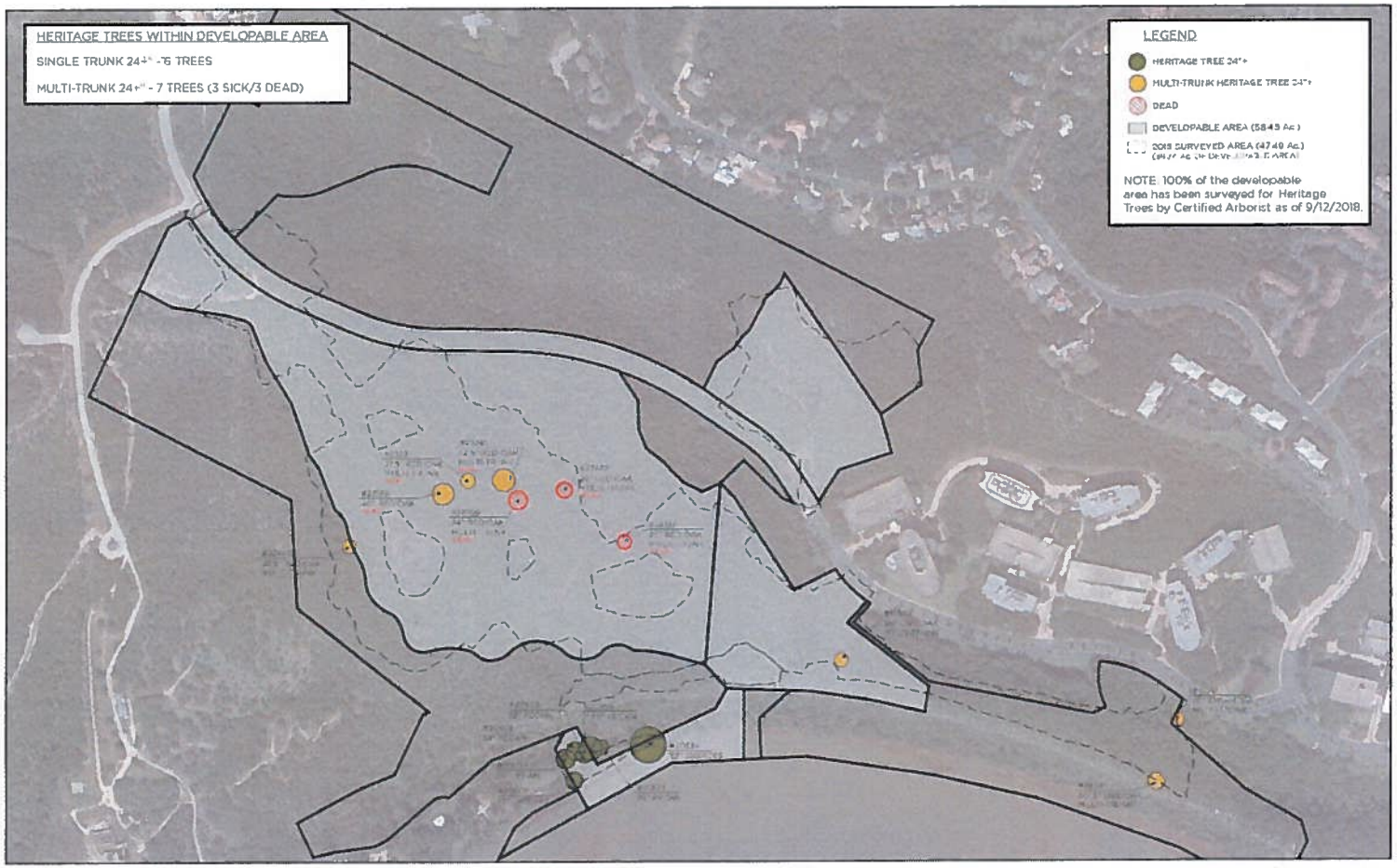
Existing Code	Existing PUD	Proposed PUD
Current Code	Protect trees greater than 19"	Current code except administrative removal of heritage trees identified as dead or diseased. Specifically Trees #: 23179, 23231, 23381*, 23399, 23472*, 24317*

*Tree health to be verified before PUD goes to Planning Commission

Tree Mitigation

Existing Code	Existing PUD	Proposed PUD
Current Code	Mitigated per Tree Class	Current code mitigation except Ashe Juniper will be mitigated at 2" for each tree removed. Trees less than 8" preserved within LOC can count towards mitigation

Proposed PUD: Heritage Trees



CAMELBACK PLANNED UNIT DEVELOPMENT
HERITAGE TREE SURVEY
SEPTEMBER 14, 2018

PHARIS DESIGN Kimley»Horn HR

Tree #23179 40” Multi-stem Red Oak (Sick)

Tree #23231 27.5” Multi-stem Red Oak (Sick)

Tree #23399 34” Multi-stem Red Oak (Sick)

Superiorities

- Parkland and Open Space
- Impervious Cover including removing 2 acres of impervious cover from the Champion Tract
- Current code water quality with 75% treated through distributed green stormwater infrastructure
- CWQZ buffer crossings will span the 10 year high water mark
- CWQZ will start at 32 acres as opposed to 64 acres
- 150' Critical Environmental Feature buffers for most features but approximately 10% of CEFs have reduced buffers
- Three Star Green Energy Building rating or above
- Comply with Erosion Hazard Zone requirements
- Outdoor lighting to incorporate dark sky lighting techniques

Non-Superior Project Elements

- Construction of 5,000 sf building within the floodplain
- Construction on slopes
- Cut and Fill
- Floodplain variance
- Mechanized access
- Extent of development footprint
- Boat dock size
- Not all CEFs have the standard 150' buffer
- Shoreline setback reduction

Conditions from the Environmental Commission

- Continue to work with staff for the floodplain variance prior to approval of the PUD and at a minimum safe access and safe refuge issues must be resolved with staff
- Require walls to contain cut and fill greater than 4'
- Provide an engineering solution for construction on slopes that exceeds the appropriate criteria manual requirements
- Verify the trees listed are dead or dying per the applicant's arborist report
- Work with staff to establish a minimum buffer for the bluff
- Tram/elevator/inclinator issues need to be finalized with safety and environmental constraints as applicable
- Sewage lift station provides an oversized wet well to accommodate extended downtime and back-up from force main
- Design of the dock facilities and access should include input from a design charrette made up of a group approved by the City staff and the developer to ensure the structure protects the visual environmental impacts

Conditions from the Environmental Commission

- Work with staff to provide a gross floor area to limit clubhouse size
- Provide a geologic report regarding the impacts on the rimrock, springs and other features that are not included in a buffer area and along any access path to the lake front
- Boat dock construction and access are to be built from the lake via barge and not from the bluff down
- Swimming area restrictions should be included
- Limit or control commercial watercraft rentals
- Trail construction should be evaluated for sustainability and maintenance
- Adjacent property compatibility setback needs to be evaluated and discussed with the adjacent property owner
- No shower facilities at the boat dock or clubhouse
- Clarify restriction on noise limits
- Non-hydraulic design for any mechanical lift or redundant containment for any fluid lines

Conditions from the Environmental Commission

- Open space and public access restrictions should be further evaluated
- Limit boat dock to 14,400 square footage
- Evaluate dock distance from shoreline down to 60' and impacts on the wetland
- No intense recreational use along the shoreline or clubhouse area
- Modify grandfathering language in accordance with staff recommendations and
- Any access structure shall not be attached to the bluff or rimrock.

ENVIRONMENTAL COMMISSION MOTION 20180919 008b

Date: September 19, 2018

Subject: Camelback Planned Unit Development, C814-86-023.01

Motion by: Wendy Gordon **Seconded by:** Hank Smith

RATIONALE:

WHEREAS, the Camelback Planned Unit Development (PUD) is a proposed amendment to an existing PUD from 1987; and

WHEREAS, City staff have concluded that elements of the project provide environmental superiority over the 1987 PUD; and

WHEREAS, the revised PUD will provide at least 60.46 acres of permanently protected open space and 26.16 acres of dedicated park land in an area that has high recreational use due to its scenic beauty and easy access; and

WHEREAS, other environmental superiority elements include: treating 100 percent of required stormwater runoff volume per current Land Development Code requirements, of which 75 percent will be treated through green stormwater control measures; designing outdoor lighting on the site with dark sky lighting techniques; and providing an Austin Energy Green Building rating of three stars or above; providing more critical environmental feature buffers than the current PUD; and

WHEREAS, in coordination with this PUD amendment, the applicant also proposes to acquire Champions Tract 3, located at the southeast corner of FM 2222 Road and City Park Road, reduce the planned use intensity of the property from apartments to a senior living development, and reduce two acres of impervious cover from the Champions Tract 3 development; and

WHEREAS, the Environmental Commission voted against the currently approved version of the Champions Tract 3 development concluding that it was "not necessarily environmentally superior" to the original development agreement and because of specific concerns relating to impervious cover and intensity of use; and

WHEREAS, the proposed downscaling of the Champions Tract 3 development would help alleviate environmental impacts, address the Environmental Commission's previously stated concerns, and is supported by the surrounding neighborhoods; and

WHEREAS, the majority of the neighbors and neighborhoods surrounding Camelback PUD have come out in favor of the project with written endorsements.

THEREFORE, the Environmental Commission finds that the proposed Camelback PUD amendment is environmentally superior to the 1987 PUD and is recommended with the conditions laid out by City staff in its September 13, 2018 memo and the following:

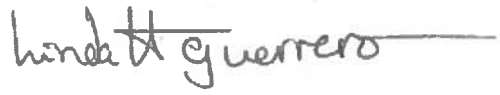
Environmental Commission Conditions

- continue to work with staff for the floodplain variance prior to approval of the PUD and at a minimum safe access and safe refuge issues must be resolved with staff
- require walls to contain cut and fill greater than 4'
- provide an engineering solution for construction on slopes that exceeds the appropriate criteria manual requirements
- verify the trees listed are dead or dying per the applicant's arborist report
- work with staff to establish a minimum buffer for the bluff
- tram/elevator/inclinator issues need to be finalized with safety and environmental constraints as applicable
- sewage lift station provides an oversized wet well to accommodate extended downtime and back-up from force main
- design of the dock facilities and access should include input from a design charrette made up of a group approved by the City staff and the developer to ensure the structure protects the visual environmental impacts
- work with staff to provide a gross floor area to limit clubhouse size
- provide a geologic report regarding the impacts on the rimrock, springs and other features that are not included in a buffer area and along any access path to the lake front
- boat dock construction and access are to be built from the lake via barge and not from the bluff down
- swimming area restrictions should be included
- limit or control commercial watercraft rentals
- trail construction should be evaluated for sustainability and maintenance
- adjacent property compatibility setback needs to be evaluated and discussed with the adjacent property owner
- no shower facilities at the boat dock or clubhouse
- clarify restriction on noise limits
- non-hydraulic design for any mechanical lift or redundant containment for any fluid lines
- open space and public access restrictions should be further evaluated
- limit boat dock to 14,400 square footage
- evaluate dock distance from shoreline down to 60' and impacts on the wetland
- no intense recreational use along the shoreline or clubhouse area
- modify grandfathering language in accordance with staff recommendations and
- any access structure shall not be attached to the bluff or rimrock.

VOTE 7-2

For: B. Smith, Creel, Neely, H. Smith, Guerrero, Gordon, and Coyne
Against: Thompson and Maceo
Abstain: None
Recuse: Perales
Absent: None

Approved By:



Linda Guerrero, Environmental Commission Chair

MEMORANDUM

TO: Linda Guerrero, Chair, and Members of the Environmental Commission

FROM: Christopher S. Herrington, P.E., Interim Environmental Officer
Watershed Protection Department

DATE: September 13, 2018

SUBJECT: Camelback Planned Unit Development – C814-86-023.01

This summary is being provided to the Environmental Commission for the Camelback Planned Unit Development (PUD), a proposed amendment to an existing PUD from 1987. This memo provides an overview of the property's environmental features, the requested modifications to environmental code requirements, and the elements of the project that provide environmental superiority. Staff finds that with staff's conditions, the proposed development would be environmentally superior to what could be built without the amendment to the PUD.

Project History
The applicant proposes to revise the existing single-family Hidden Valley PUD (C814-86-023). The 1987 Hidden Valley PUD included 64 home sites, 27 acres of common open space, and the extension of the Bridge Point Parkway road (Exhibit A: Original PUDs). The density of single-family homes averaged one unit per two acres. An ordinance tied to the single-family project waived the requirements of the Comprehensive Watershed Ordinance, giving the project the Lake Austin Watershed Ordinance in effect at the time of application. The proposed revision also includes the addition of 15.3214 acres from the Coldwater PUD (C814-84-020.03), which contained 5 single-family home sites and 6.88 acres of greenbelt. The original Hidden Valley PUD received environmental code modifications (Exhibit B: Original PUD variances).

Project Description
The revision to the existing PUD proposes to modify uses to include mixed residential (single-family, condominiums, and townhouses) uses; commercial and office uses; 80.153 acres of park and open space; and a 625 ft^2 cluster dock. A collector road is proposed to be built through the site, connecting Bridge Point Parkway from the eastern portion of the site to the western portion. The proposed PUD amendment also includes a request to modify various environmental regulations including but not limited to: critical water quality zone buffers, tree preservation, impervious cover limitations, boat docks, boat dock access, and cut/fill.

In coordination with this PUD amendment, the applicant also proposes to acquire Champions Tract 3, located at the southeast corner of FM 2222 Road and City Park Road, reduce the

planned use intensity of the property from apartments to a senior living development, reduce 2 acres of impervious cover from the Champions Tract 3 development, and make certain traffic mobility improvements associated with Champions Tract 3.

Description of Property
The Camelback PUD consists of approximately 138.19 acres of land and 6.467 aces of water located on the north bank of Lake Austin, at the western terminus of Bridge Point Parkway, and approximately one quarter mile west of N. Capital of Texas Highway (Loop 360) (Exhibit C: Location Maps). The property is currently zoned PUD with a base zoning of Lake Austin residence (LA). The site is located in the Lake Austin and Coldwater Creek watersheds, which are classified as Water Supply Rural and are within the Drinking Water Protection Zone. The site is not within the Edwards Aquifer recharge or contributing zones. The property has approximately 3,126 feet of frontage along Lake Austin, which is protected by a 100-foot wide critical water quality zone (CWQZ) (Exhibit D: Critical Water Quality Zone and Floodplain).

Existing Topography/Soil Characteristics/Trees
The site contains steep slopes adjacent to Lake Austin, which transitions from flat areas along the lake shore to steep slopes greater than 400 percent along the bluff. Elevations range from approximately 492.8 feet above mean sea level at the lake shore to 732 feet above mean sea level at the top of the bluff. The rest of the property is comprised of several hill tops and a valley that bisects the two with the highest point at the northwest corner of the tract resting at an elevation of 932 feet above mean sea level. The property contains a large number of trees including heritage and protected trees. A full tree survey has not been conducted on the entire site, but the applicant has conducted transects and the applicant's arborist has prepared a tree report (Exhibit E: Arborist Report). Tree species on the site include but are not limited to escarpment oak, ashe juniper, Texas red oak, eastern red cedar, and mountain laurel.

Critical Environmental Features
An Environmental Resource Inventory (ERI) was prepared by Terracon Consultants in July 2018 (Exhibit F: Applicant's Environmental Resource Inventory). The ERI identified 44 critical environmental features (CEFs) on or within 150 feet of the PUD site: ten canyon rimrocks, one bluff, 26 springs and seeps, one karst feature (solution cavity), and six wetlands. Forty-three (43) of the 44 CEFs are being protected with buffers. The solution cavity will not be preserved. Current code requires a 150-foot buffer zone for each CEF. The PUD proposes to modify the buffers for all of the CEFs as illustrated on the applicant's Exhibit G (Critical Environmental Feature Buffers). The PUD amendment designates CEF buffers and modified buffer areas and proposes wetland mitigation to minimize the impacts of the CEF buffer reductions.

Requested Environmental Code Modifications
The applicant proposes multiple environmental code modifications (Exhibit H).

Proposed Environmental Superiority Elements
Staff have prepared a comparison of the original PUD to the proposed PUD amendment (Exhibit I). The applicant is proposing to provide the following environmental superiority elements:

1. The revised PUD will provide at least 60.46 acres of permanently protected open space and 26.16 acres of dedicated park land.

2. The revised PUD will treat 100% of the required stormwater runoff volume for water quality per current Land Development Code requirements, 75% of which will be treated through distributed green stormwater control measures.
3. The revised PUD will comply with Erosion Hazard Zone requirements.
4. Outdoor lighting on the site will be designed to incorporate dark sky lighting techniques.
5. The revised PUD will provide an Austin Energy Green Building rating of three stars or above.
6. The revised PUD will provide more CEF buffers than the current PUD.
7. The applicant will reduce impervious cover on the Champions Tract 3 by 2 acres. Considering the reduced impervious cover on the Champions Tract 3, the overall impervious cover of the revised PUD is less than the current PUD.

Determination
Based on the superiority elements described above and in the comparison chart in combination with the staff recommended PUD notes, staff finds that the proposed development would be environmentally superior to what could be built with the existing PUD. Considering staff recommendations, the superiority elements preserve and enhance the site's natural features and protect the water quality of Lake Austin.

Staff Recommendations
Modify the following applicant PUD notes:
1. Revise note #1 to include dedicated open space and restrict uses in dedicated open space.
2. Clarify the overall allowable percent impervious cover in notes #2 and #3.
3. Revise notes #5 and #6 with respect to tree protection to comply with current code but allowing for certain specifically identified dead, diseased, or dying trees to be removed.
4. Clarify in note #8 the allowable exchange of commercial for residential unit.
5. Clarify number of allowable driveways in note #9
6. Revise note #11 restrict the area of improvements for buildings and related facilities in the Dock (D) District to a maximum of 5,000 ft^2 and clarify applicable floodplain modification requirements.
7. Staff recommends an elevator as the only means of mechanized access to the Dock (D) District. Revise note #12, and clarify critical environmental feature buffer requirements.
8. Remove note #13 and replace with new notes for each item (see below).
9. Revise note #14 regarding applicable erosion and sedimentation controls.
10. Revise note #15 regarding applicable site plan expiration requirements.
11. Clarify note #16 in regards to exterior lighting and screening of equipment and utilities.
12. Revise note #23 to require that sidewalks shall meander so that trees greater than 19 in are preserved.
13. Revise note #25 to clarify that acreage for Preserve Open Space (P-OS) may not be combined with other districts to satisfy minimum area requirements.
14. Revise note #27 to clarify that no additional dock development other than the specified cluster dock is allowed.
15. Revise note #28 to clarify the revised impervious cover limitations on the Champions Tract 3.

16. Clarify note #29 regarding the watercraft which may be moored or stored on the cluster dock.
17. Clarify language in note #30, staff wants all environmental requirements to be shown on Land Use Plan or stated within PUD Notes.
18. Revise note #33 regarding modification of the alignment of Bridge Point Parkway.
19. Clarify critical environmental feature buffer requirements in note #34.
20. Potentially revise note #36 pending clarification from Austin Fire Department.
21. Revise note #38 to restrict staging for Bridge Point Parkway in locations other than the Park (P) and Preserve (P-OS) districts.
22. Clarify note #42 regarding floodplain requirements for the Dock (D) District.
23. Clarify note #45 regarding allowable incidental development in the Preserve (P-OS) District.

Additionally, staff recommend the inclusion of additional notes to the PUD including:

1. Clarify critical environmental feature buffer requirements in the Commercial (C) District.
2. Clarify that cut and fill max not exceed 24 ft, except for fire lanes which may not exceed 28 ft, and specify a maximum total amount of allowable cut and fill over 4 ft.
3. Specify the maximum footprint of the cluster dock.
4. Add structural containment requirements for cut and fill.
5. Add requirements for spanning of roadways and driveways for critical water quality zone crossings and other headwater creeks.
6. Specify shoreline wetland critical environmental feature delineation and mitigation.
7. Require structural stormwater control measures to capable of treating 100% of the required water quality volume, and utilize green stormwater control measures for at least 75% of the required water quality volume.
8. Specify integrated pest management plan requirements.
9. Specify outdoor lighting plans to minimize light pollution.
10. Specify green building requirements such that all buildings achieve a 3-star or greater rating.
11. Specify irrigation water sources and requirements for the use of air conditioning condensate for commercial buildings.
12. Specify tree species planting and placement criteria and non-turf plant requirements.
13. Specify drainage requirements.
14. Specify applicable Erosion Hazard Zone requirements.

Exhibits:

A	Original PUD
B	Original PUD Variances
C	Location Maps
D	Critical Water Quality Zone and Floodplain
E	Arborist Report
F	Environmental Resource Inventory/Site Photos
G	Critical Environmental Features
H	Environmental Code Modifications
I	PUD Amendment Comparison Chart

Exhibit A

Existing PUD-Hidden Valley

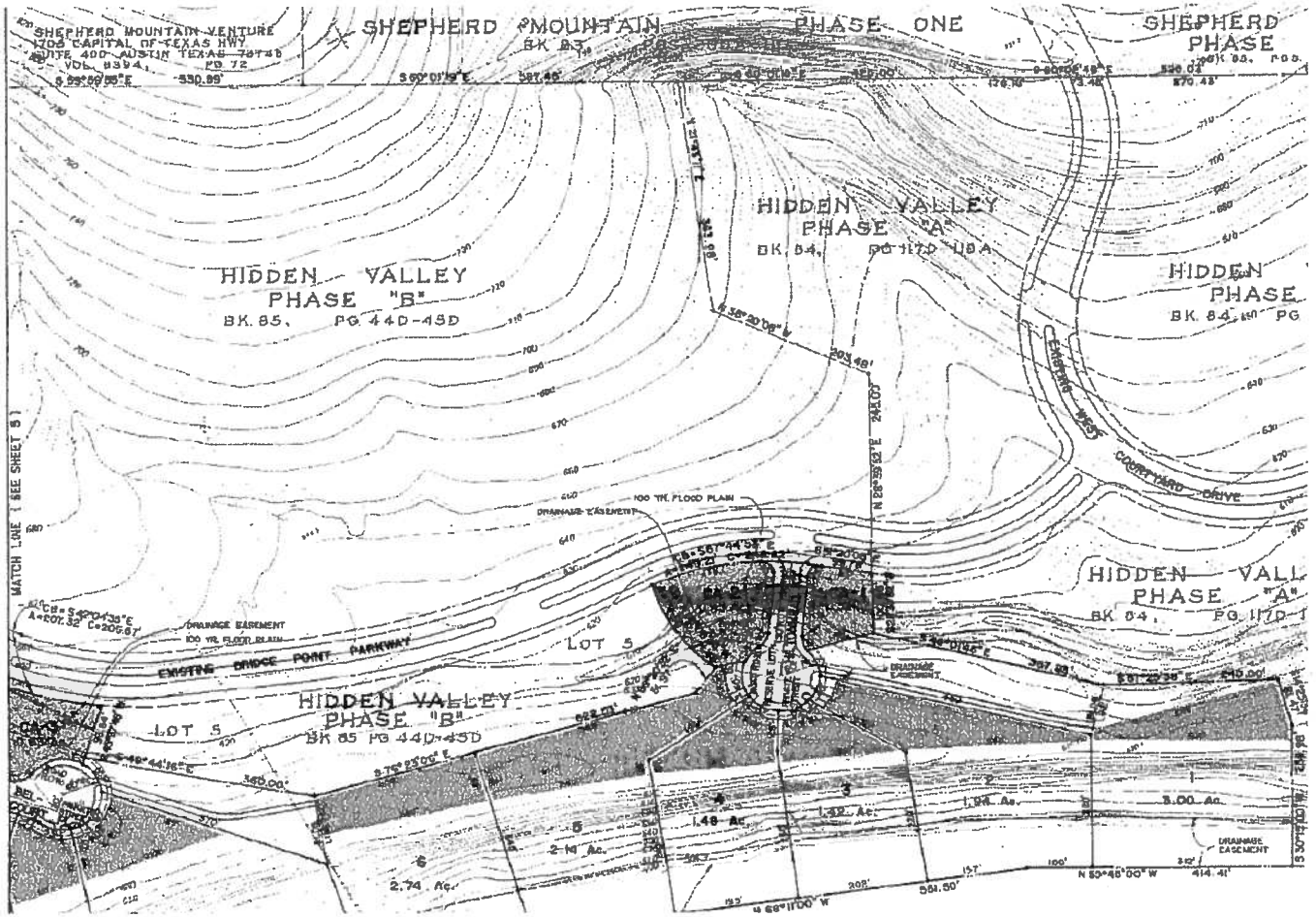


Exhibit A

Existing PUD-Hidden Valley

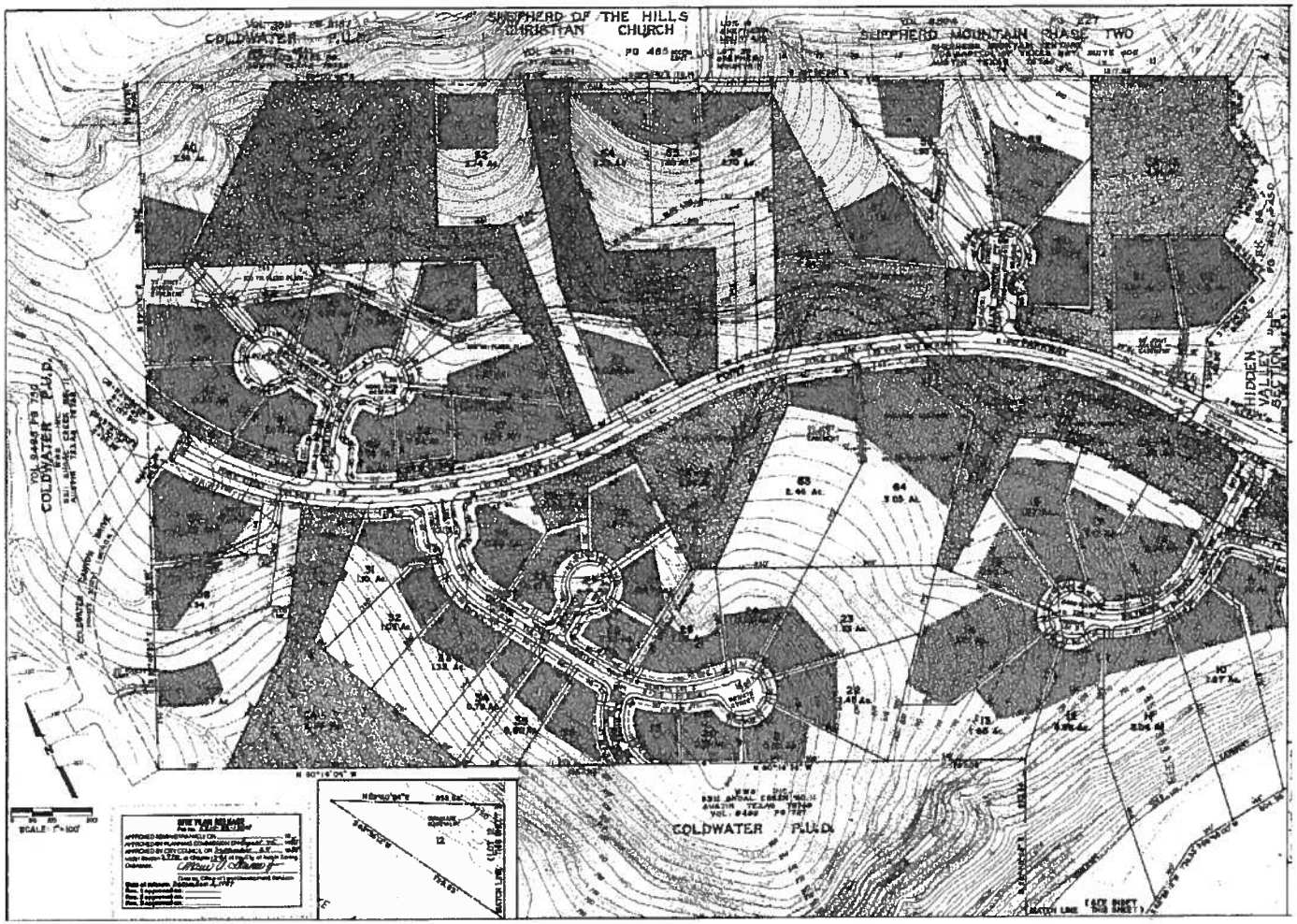


Exhibit A

Existing PUD-Coldwater

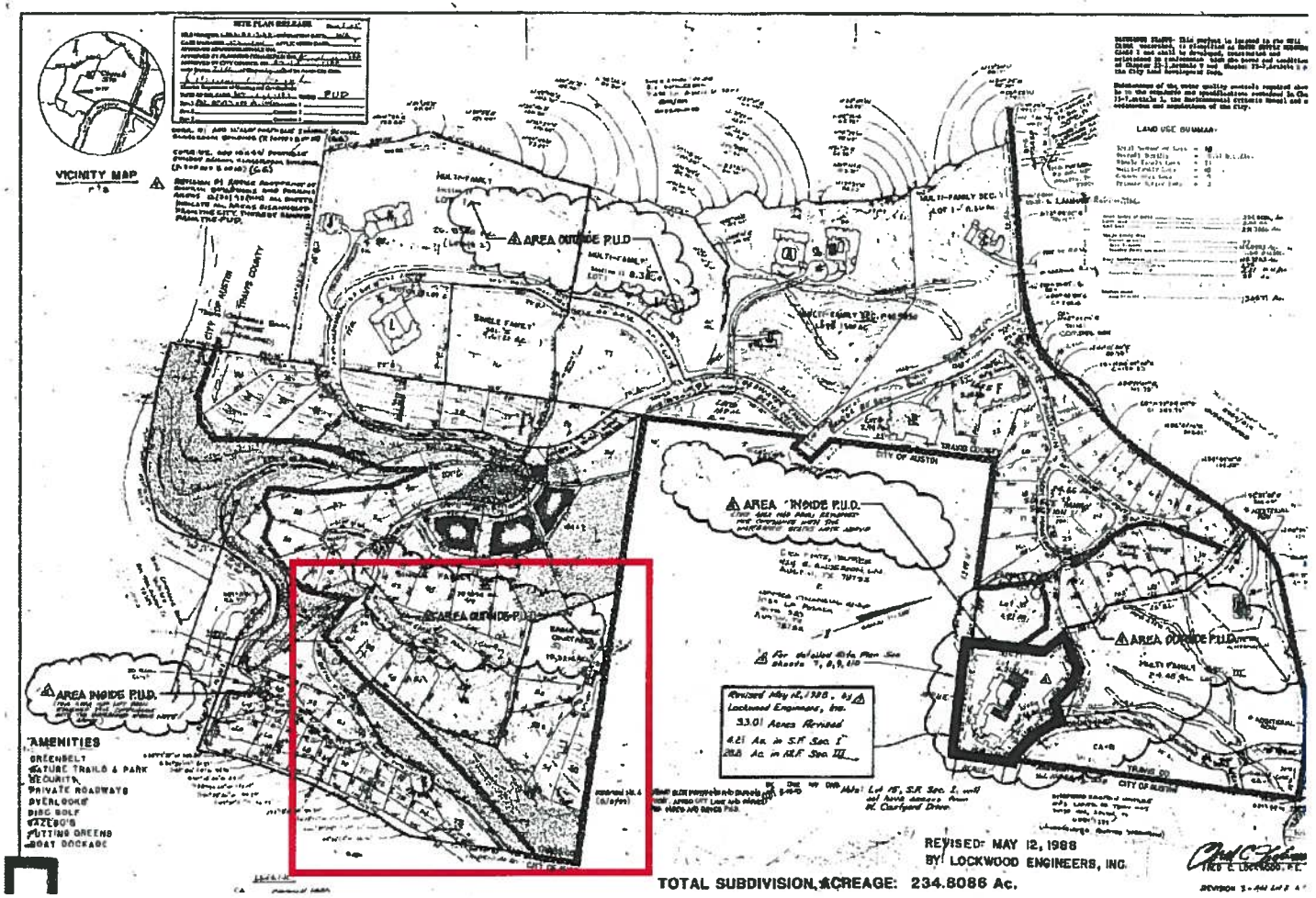


Exhibit B

Austin City Council
MINUTES
For SEPTEMBER 24, 1987 - 1:00 P.M.

Council Chambers, 307 West Second Street, Austin, Texas

Memorandum To:

Mayor Cooksey called to order the meeting of the Council, noting the presence of all Councilmembers.

MINUTES APPROVED

The Council, on Councilmember Nofziger's motion, Councilmember Shipman's second, approved minutes for regular meetings of August 27, 1987 and September 3, 1987 and special meetings of September 3 & 15, 1987. (4-0 Vote, Mayor Pro Tem Trevino and Councilmember Urdy out of the room.)

CITIZEN COMMUNICATIONS

Ms. Janet Pogue discussed Wild Basin Interpretive Center and Mr. Mark R. Smith discussed City Landfill fees.

ITEM POSTPONED

Postponed to October 15, 1987 is consideration of second/third readings of the Development Processing Ordinance (13-1) and the Performance Overlay Ordinance.

OLD BUSINESS - ZONING ORDINANCES

The Council, on Councilmember Shipman's motion, Councilmember Humphrey's second, passed through second/third readings of ordinances amending Chapter 13-2A of the Austin City Code (Zoning Ordinance) to cover the following changes: (5-0 Vote, Councilmembers Urdy and Carl-Mitchell out of the room)

(1)	GEORGE NALLE By Terry Bray C14r-86-207	1500 Capital Parkway	From "SF-2" to "MF-3"

First reading on December 4, 1986, (6-0). Mayor Pro Tem John Trevino, Jr. and Councilmember Charles E. Urdy absent. Conditions have been met as follows: Development restricted to that shown on site plan attached as an exhibit to the ordinance.

(5)	-87 127	FIRST STATE BANK By John Lee	3500 Block Dime Circle	From "DR", "SF-2" To "LI" RECOMMENDED ORDINANCE
(6)	-87 129	LOU B. & FAE FALLEY By Shaffer Financial Network	9436 Parkfield Drive	From "GR" To "CS-1" RECOMMENDED ORDINANCE
(7)	-87 122	YAGER LANE/ DESSAU ROAD PARTNERSHIP	1600 Block Yager Lane 12000 Block Dessau Road	From "DR" To "GR" & "RR" FIRST READING

RECOMMENDED "GR" zoning with "RR" zoning for the 100-year floodplain, subject to an impervious cover limit of 70 percent, no acccess to Dessau Road, no certificate of occupancy prior to construction of Doubleback Lane, and fulfilling recommendation of a revised traffic impact analysis prior to issuance of a building permit for any use other than a church, private elementary school, or commercial day care center.

(8)	C14-86 023	HIDDEN VALLEY P.U.D. CREDITBANC INTERNATIONAL CORP.	Bridge Point Parkway	From "LA" & "DR" To PUD FIRST READING

RECOMMENDED PUD zoning, grant variances to exceed the maximum block length, to exceed the maximum cul-de-sac length for Grosse Pointe Ct., Eagle Ridge and Biltmore Court; approve variances from the Lake Austin Watershed Ordinance to construct a public or private roadway on slopes exceeding 25% and to exceed four feet of cut and fill, based on items 1, 2 and 3 of the finding of fact criteria being subject to Environmental Board recommendations and that erosion controls are to be provided at the headwall of the draw for the roadway that exceeds 25% slopes; applicant is to try to obtain access through Shepherd of the Hills Church site for lot 52.

(On Mayor Pro Tem Trevino's motion, Councilmember Urdy's second, 6-0 Vote, Councilmember Humphrey out of the room)

(9)	-83 003	CITY OF AUSTIN By Stanley Depwe, Dan McRae	2504-2508, 2505-2509 Westlake Drive and West of 2506 Westlake Drive	From "I-LA" & "SF-3" To "CR" NO RECOMMENDATION

CONTINUE UNTIL THE PARTIES CONCERNED BRING IT BACK

(On Councilmember Carl-Mitchell's motion, Councilmember Shipman's second, 5-0 Vote, Mayor Pro Tem Trevino and Councilmember Urdy out of the room)

Austin City Council
MINUTES
For DECEMBER 3, 1987 - 1:00 P.M.

Council Chambers, 307 West Second Street, Austin, Texas

Mayor Pro Tem Trevino called to order the meeting of the Council, noting the absence of Mayor Cooksey.

MINUTES APPROVED

The Council, on Councilmember Carl-Mitchell's motion, Mayor Pro Tem Trevino's second, approved minutes for regular meeting of November 19, 1987 and special meetings of November 17 & 24 (10:00 & 4:00), 1987. (4-0 Vote, Mayor Cooksey absent, Councilmembers Humphrey and Urdy not yet in the Council Chamber.)

CITIZEN COMMUNICATIONS

William Miller Jr. discussed STNP. Nancy Harris, Stephen B. Rodi, Otis Budd, Garry Wilkison, Chip Harris, Enrique Lopez Jr., and Al Dotson of the Library Commission, all discussed implementation of library budget cuts. Jackie Goodman did not appear but her statement was read by Chip Harris.

ITEM POSTPONED

Postponed to December 10, 1987 is the Austin Convention and Visitor Bureau, Inc. report on annual marketing plan and budget for approval.

CIVIC CENTER PROJECT

Council had under consideration ordinances and resolutions dealing with the Civic Center Project.

Motions made begin on the next page.

(1) HIDDEN VALLEY P.U.D. C814-86-023 — Bridge Point Parkway — From "LA" & "DR" to "P.U.D."

First reading on September 24, 1987, (6-0). Councilmember George Humphrey out of room at roll call. No conditions to be met.

(2) WESTRIDGE P.U.D. By Doug Dune C814-85-007 — FM 2222 @ Grace Lane — From "SF-2" to P.U.D.

First reading on July 11, 1985, (6-0). Mayor Pro Tem John Trevino, Jr. abstained. No conditions to be met.

(5-0 Vote, Mayor Pro Tem Trevino abstained, Mayor Cooksey absent.

(3) TEXAS COMMERCE BANK-AUSTIN NATIONAL ASSOCIATION, A NATIONAL BANKING ASSOCIATION By Sharon Peters Judge C14-85-059 — 505 & 507 Ferguson — From "I-SF-2" to "CS"

First reading on May 2, 1985, (5-0). Councilmember Charles E. Urdy absent. Conditions have been met as follows: Restrictive Covenant incorporating conditions imposed by Council has been executed.

(4) THOMAS V. BRADFIELD TRANSWESTERN PROPERTY COMPANY C14r-86-283 — South Loop 1 at Loop 360 — From "SF-2" to "GO"

Second reading on August 20, 1987, (6-0). Councilmember Sally Shipman absent. Conditions have been met as follows: Development restricted to that shown on site plan attached as an exhibit to the ordinance.

(5) CITY OF AUSTIN PARKS AND RECREATION DEPARTMENT By Stuart Strong C14-87-082 — 100-3000 Lamar Boulevard, 5100 - 6000 Shoal Creek Boulevard — From "UNZ", "SF-2" "SF-3", "MF-2", "MF-3", "MF-4", "LO", "GO", "CS" to "P"

First reading on August 27, 1987, (7-0). No conditions to be met.

C814-86-023(4J)

C814-86-023 HIDDEN VALLEY P.U.D.
CREDITBANC INTERNATIONAL CORP.
By: Bury & Pittman
Bridgepoint Parkway

Greg Strimska, agent, said the density of the proposed plan was originally limited to 134 units, but under the Northwest Area Plan the density was limited to 64 lots as a condition of the waiver from the Comprehensive Watershed Ordinance. In addition, Bridgepoint Parkway was scaled down from 90' r.o.w. with 50' of pavement to 64' r.o.w. with 32' of pavement. Bridgepoint Parkway is dictated by the 40 m.p.h. mile speed that is required for geometrics. This has dictated the amount of cut and fill being requested by the applicant.

The applicant is requesting a cut and fill variance for 10 of the 64 lots. Those 10 lots contain cut and fill of less than 6' with the exception of Lot 42 which has a 9' cut and fill due to the fact that the streets bite into the tip of the hill at the end of the cul-de-sac.

The main issue is the variance to construct an easement across slopes of greater than 25% gradient. This easement will provide access to five lots that have frontage on Bridgepoint Parkway. They looked at various grades which would be encountered in taking access to Bridgepoint Parkway, and in all those instances they would traverse slopes in excess of 25% for much greater distances, and some of those grades were unacceptable to staff. The applicant therefore felt that the previous plan which would provide access through Shepard Mountain was most preferable; however, they have not been able to obtain an easement through Shepard Mountain. This alternative would require crossing an area of 100' across a slope, and is similar to the alignment which was previously agreed to. In addition, it will not create a significant environmental feature that would warrant special consideration if reviewed under the Comprehensive Watershed Ordinance. They feel the disturbance in the area will be minimal.

Mary Arnold asked if erosion and sedimentation control measures would be required and if the Commission could obtain an evaluation of any erosion and sedimentation control proposals during construction.

Marie Silver said erosion and sedimentation control measures will not be required but they will be required to install a rock berm at the bottom end of each draw. She noted that if they cannot obtain access from the Shepard Mountain tract, they may need to redraw lot lines.

Scott Roberts recommended that the applicant continue working with Shepard Mountain in order to obtain an access easement to Lot 52. If the Commission denies the variance which prevents the applicant from obtaining access to Lot 52, he will be forced into a position of having to work with Shepard Mountain to obtain that access, and if he is unable to acquire that access easement, he will have to come back at a later date and reapply for that variance.

Ken Blaker, Office of Land Development Services, suggested that a condition be placed upon the preliminary plan stating that the final plat will not be approved pending access via the Shepard Mountain church site. He noted that nothing precludes the applicant from reapplying for a variance.

Gail Gemberling said she would not vote against the variance given the Environmental Board recommendation.

Brad Greenblum, representing CreditBanc, said they have been negotiating with the Church of Christian Shepard for over one year to secure an easement. They have indicated a willingness to grant the easement, but their conditions are onerous and consist of view corridors which would reduce the number of lots. They are attempting to mitigate their considerations and are continuing to work with them.

Jim Cousar said he is not aware of any instance in which prohibiting a roadway on a 25% slope would deprive a property of privileges enjoyed by similarly situated and similarly timed development.

Scott Roberts said there have been instances in which the Commission has permitted developments to exceed the slope requirements for access and cut and fill.

Gail Gemberling said she views the easement as a driveway because it only provides access to one lot. She also noted that the applicant has worked very hard to comply with the requirements in other areas.

Jim Cousar said some portions of land within the Lake Austin Watershed are simply not suited for development and should therefore not have access to them.

Charles Miles suggested that the applicant make an effort to provide erosion and sedimentation controls.

COMMISSION ACTION: Roberts/Gemberling
MOTION: To grant PUD zoning, grant variances to exceed the maximum block length, to exceed the maximum cul-de-sac length for Grosse Pointe Ct., Eagle Ridge and Biltmore court, to delete the sidewalks along all roads; approve variances from the Lake Austin Watershed Ordinance to construct a public or private roadway on slopes exceeding 25%, and to exceed four feet of cut and fill, based on Items 1, 2 and 3 of finding of fact criteria; and subject to Environmental Board recommendations.
Ayes: Gemberling, Miles, Roberts, Arnold, Goodman, Parker
Nays: Cousar
Abstained: DeLaGarza
MOTION CARRIED BY A VOTE OF 6-1-1

STAFF RECOMMENDATION C814-86-23(U1)

The staff is not opposed to the proposed land use of PUD zoning and its accompanying site plan. However, the staff recommends denial of this PUD based on the proposed preliminary subdivision. This tract is effected by severe topographic constraints and the applicant has requested variances to the subdivision requirements, which the staff cannot support at this time.

A. Synopsis

On August 28, 1986 this proposed plan was granted a waiver by the City Council from complying with the Comprehensive Watersheds Ordinance. The waiver was granted subject to the following conditions: The applicant was to limit their project to a maximum density of 64 units and that the roadway called Bridge Point Parkway was to be constructed at a width of 32 feet including curb and gutter.

The proposed Hidden Valley Planned Unit Development Phase C consists of 64 single family residential lots, 22 common area lots and is located in the Lake Austin Watershed. The tract encompasses a total of 130.7219 acres and has a unit per/acre density count of less than one (1) per every two (2) acres.

The design and size of this P.U.D. is similar to that of a regular subdivision that would be required if developed under normal subdivision regulations pursuant to the Lake Austin Watershed restrictions. The main difference being the proposed private streets being utilized to access most of the subdivisions proposed lots. Currently under normal subdivision regulations private streets are not allowed unless done in conjunction with a P.U.D.

This tract has a City of Austin water and wastewater service commitment with an approved transfer of service commitments form the Shepard Mountain Subdivision. Two hundred and sixty five (265) living unit equivalents were transferred from Shepard Mountain to Hidden Valley, sixty four (64) of which are to utilized for this particular tract.

The zoning surrounding this site varies from the use category of PUD to O, LO, and GR. The PUD uses vary from single family, to multi-family in the proposed subdivision of Coldwater PUD which abuts this tract to south and west. Office retail uses are found in the existing subdivisions of Hidden Valley which abut this tract to the east and north. Due to the severe topographic constraints and this PUD's low unit per acre density it is the opinion of the staff that PUD (single family) zoning is appropriate for this area.

A Traffic Impact Analysis was not required as there is no significant traffic impact produced by the sixty four (64) single family lots.

C814-86-023(41)

B. Variances/Waivers

The applicant has requested three (3) variances from normal subdivision regulations they are as follows:

1. Section 13-3-101: To exceed the maximum block length. Recommend to grant, due to the severe topographic constraints that exist and adequate circulation is provided for the proposed density.

2. Section 13-3-87: To exceed the maximum cul-de-sac length for Grosse Pointe Ct., Eagle Ridge and Biltmore Court. Recommend to grant, due to projects low density and the severe topographic constraints that exist.

3. Section 13-3-151: To delete the sidewalks along all roads. This variance has been withdrawn since the applicant is providing sidewalks as required by the ordinance and staff.

The applicant for the above-mentioned subdivision has requested a variance from the following sections of the Lake Austin Watershed Ordinance:

A. Section 13-3-621: Impervious cover is not permitted on slopes exceeding 35%;

B. Section 13-3-638: Public or private roadway construction is prohibited on slopes exceeding 25%, unless accessing five lots; and,

C. Section 13-3-651: Cut and fill shall not exceed four (4) feet.

The subdivision was granted a waiver from the Comprehensive Watershed Ordinance on August 28, 1987, subject to a density limit of 64 units and a 32-foot roadway design (with curb and gutter) for Bridge Point Parkway.

The following outlines the roadways and lots for driveways for which a variance is requested, and the proposed depth and extent of the excess cut or fill:

ROADWAYS

Roadway	Max. Cut	Max. Fill
Bridge Point Parkway	19'	17'
Hilton Head Court	6'	12'
Falls Church Court	5'	6'
Gunnston Court	4'	6'
Bellingrath Court	12'	7'
Belcourt Place	3'	9'
Eagle Ridge	4.5'	7.5'

Beauvoir Terrace	4'	3'
Grosse Point	16'	6'
Biltmore Court	10'	8'

DRIVEWAYS

Lot #	Max. Cut/Fill	Length
1	6' Fill	30'
13	6' Cut	30'
14	6' Cut	50'
15	6' Cut	30'
22	5.5' Cut	30'
23	6' Cut	50'
24	5' Cut	50'
42	9' Cut	40'
59	5' Cut	20'
60	5' Cut	15'

The Environmental Services Division of the Department of Environmental Protection recommends that the variance to exceed the cut and fill limits of Section 13-3-651 be granted for the following reasons:

1. All the roadway cut and fill will be contained within the right-of-way. The roadway design width of 32 feet will limit the impact of the excess cut and fill sections.

2. Alternatives to the proposed roadway alignments were considered. These alternative alignments resulted in increased cut and fill sections required for the construction of the roadway.

3. The excess cut and fill amounts are considered a minimum departure from the requirements of the ordinance when topographic constraints and required roadway design criteria are taken into account. The excess driveway depths are required to access lots from the adjacent roadways.

It is recommended that the variance from Sections 13-3-621 and 13-3-638 to cross slopes exceeding 25% with a driveway, and to locate impervious cover on slopes exceeding 35% be denied. The proposed access easement would have to cross an area of extremely steep slopes in order to access one lot (Lot 52). The joint use driveway proposed to access Lots 37 and 38 will cross areas of slopes exceeding 35% and would result in a driveway with a grade exceeding 30%. It is felt that the access easement can be relocated to a flatter area such that the disturbance associated with the construction of this driveway will be minimized as much as possible. The access of these three lots do not warrant the disturbance that will be created by the construction of the driveways across the steeply sloped areas. These standards would

not allow safe all weather access, and might not allow safe access even in periods of good weather. As such, it is the opinion of the Transportation Review staff that this driveway for lots 37, 38 and 49 would also require variances to Chapter 13-3-646 and 647; these sections mandate that all lots shall be reasonably accessible from the roadway (646), and that all joint access driveways be constructed with a 10 MPH design speed (647). The staff recommends to deny these variance requests as well.

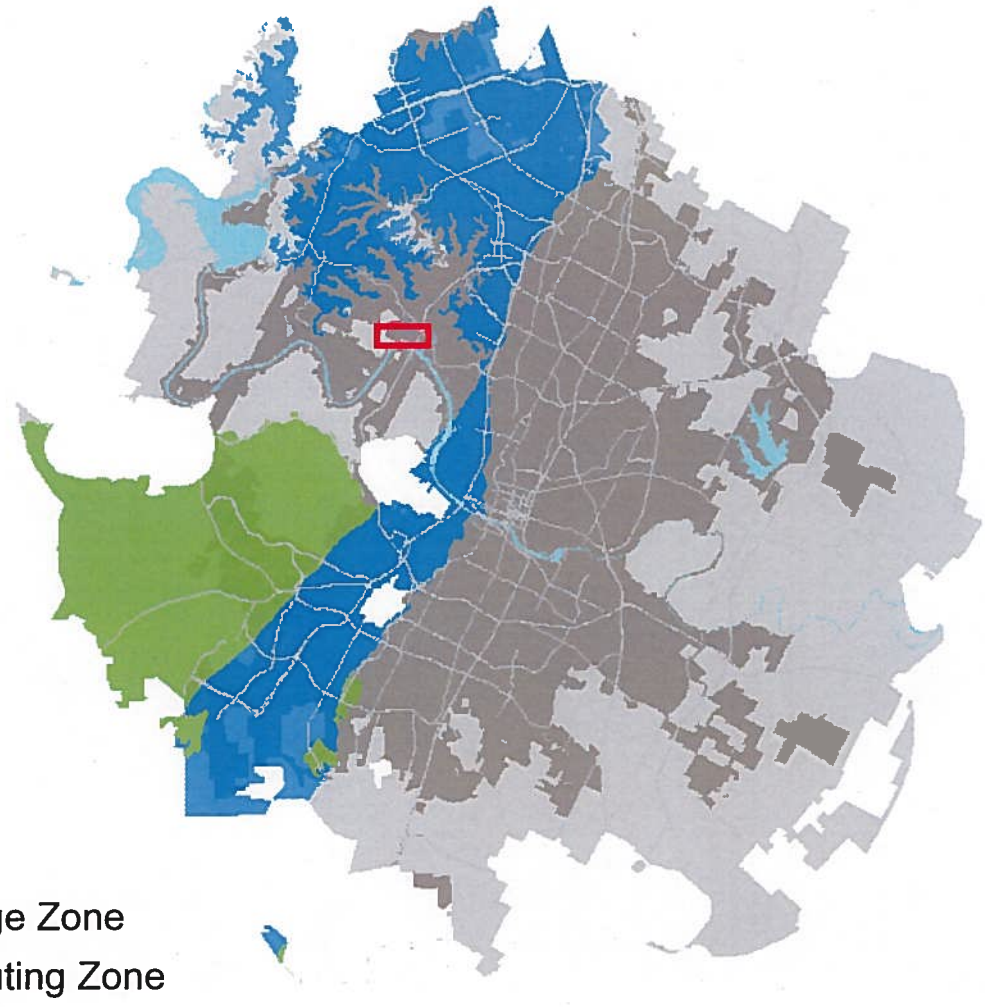
Attached to this report are the required finding-of-fact checklists for the special watershed related requested variances.

C. Requirements

Before this case may be approved the variances requested must be granted. Denial of these variances will result in requiring revisions be made to this plan.

If the variances are granted and the plan is approved then additional final stage requirements must be met prior to final plat approval and site plan release.

Exhibit C



Site Location
Austin ETJ
Austin City Limits
Edwards Aquifer Recharge Zone
Edwards Aquifer Contributing Zone

Exhibit C

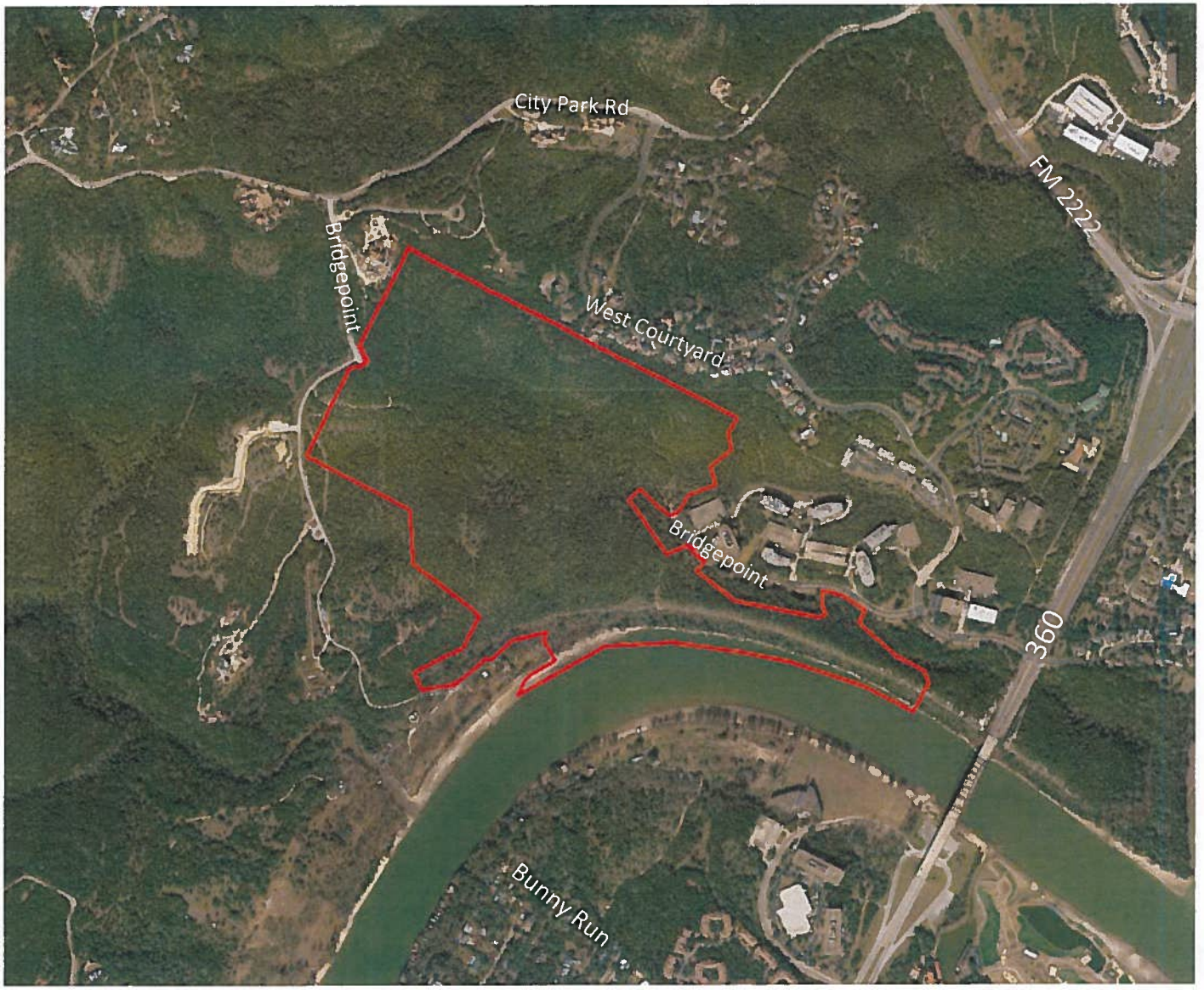

City Park Rd
FM 2222
Bridgepoint
West Courtyard
Bridgepoint
360
Bunny Run


Exhibit D

Exhibit E

Austin Tree Experts

Professional Arborist Services

(512) 996-9100 | www.AustinTreeExperts.com

Arborist Report

Tree Condition Evaluation

September 14, 2018
Camelback Project, 78730

Introduction

This report contains information about the general forest makeup and some specific trees' conditions located on the Camelback project located to the north west of Loop 360 and the Pennybacker bridge. The site is in the design phase of site planning. I have been provided some information about the site:

- An incomplete tree survey
- Infrared red imagery for the site
- A map of priority areas for tree evaluations
- A list of heritage trees in the proposed development area

Tree Species Clarification

All trees referred to as "cedar" in this report are ash junipers (*juniperus ashei*), and all trees referred to live oak are escarpment live oak (*quercus fusiformis*).

Overall Forest Composition and Condition

There are two distinguishable site types: there is the waterfront section of land that is mostly a severe slope/cliff along the edge of Ladybird lake, and the second area is the upper slopes of the site. Most of the trees in the forest are very young. I have been told that the site used to be a goat farm. I observed in the field many dead and charred cedar stumps. It appears the site was likely nude of trees and vegetation in recent history.

Upper Slopes

The northern slopes are very steep and rocky. The slope is so steep that all leafy debris is washed away. There is likely nearly zero rain water penetration into the rock. The trees on

these slopes are approximately 12' tall on average. The species composition is 99% cedar with a sporadic live oak mixed in.

The southern slopes are more gradual and there is some litter layer on the soil surface. The trees in this area range between 15-25' tall; trees are tallest near the drainage valleys and progressively get smaller as you get farther from drainage valleys. There is one portion of the drainage valleys near the center of the site where the trees are largest. The few trees surveyed to be heritage are documented below. I was unable to locate a few of the identified heritage trees; I believe they have fallen or were misidentified. The area where these heritage trees grow are steeper slopes of the drainage valleys. There are some live oaks along the drainage valleys. The largest one I found was 20.5" dbh; most are in the 10-16" dbh range. Trees at the peak of the hill are stressed, many of the cedars are dead. I would estimate that approximately 80% of the trees on the upper slopes are cedar.

Waterfront

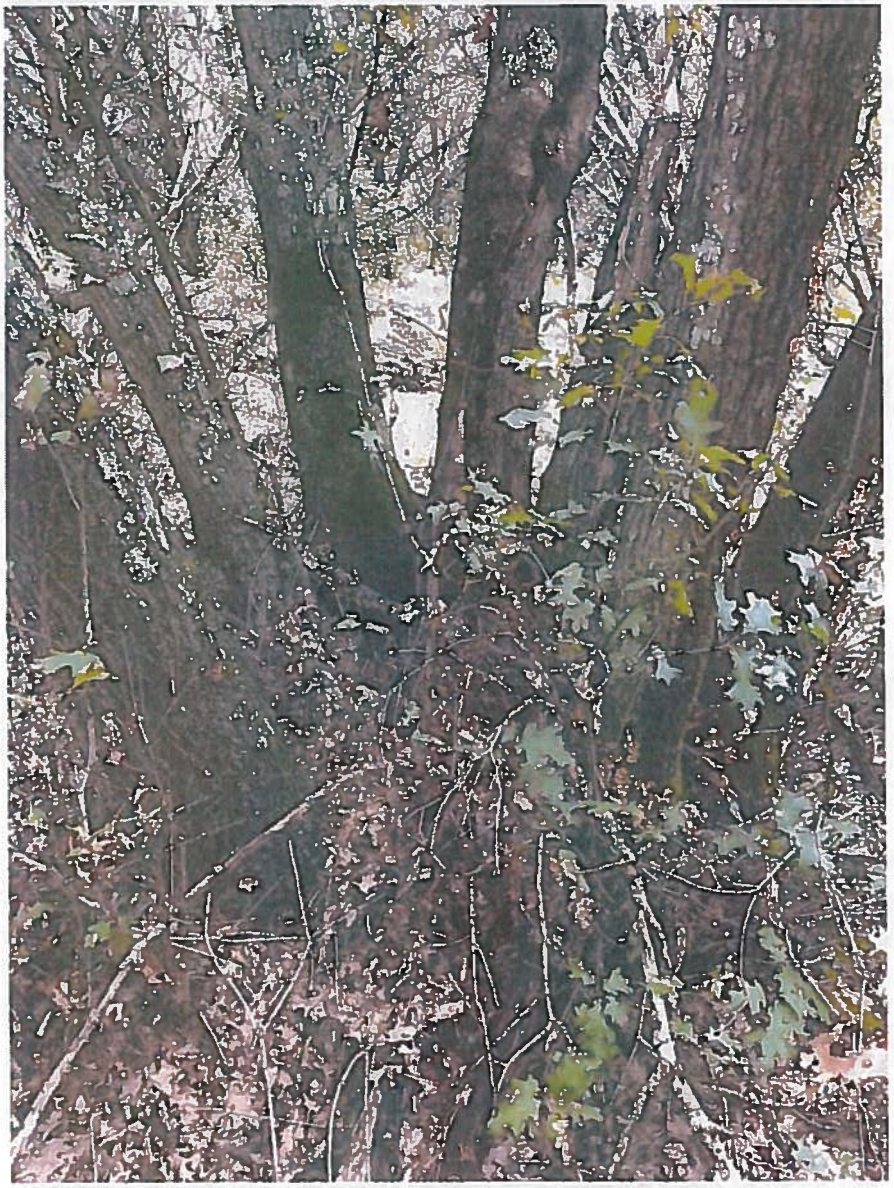
There are many large trees along the waterfront. I have not yet inventoried trees along this area, but from looking a video captured by drone, I can see that there are large bald cypress, pecan, elm and live oak. My understanding is there is no planned development along the waterfront and all these trees will be preserved.

Heritage Tree Condition Information

This section only contains information about heritage trees in the proposed development area. All of the surveyed heritage trees are multi-stem red oaks located along a drainage valley on the upper slopes. There are many fallen trees in this area; some fully uprooted and some broken off in the main stems. Overall, the structural integrity of these trees is questionable at best. Average lifespan of spanish oaks on hillsides in the hill country are known to be fairly short, +/- 50 years. Development activity near these trees would further shorten life expectancy.

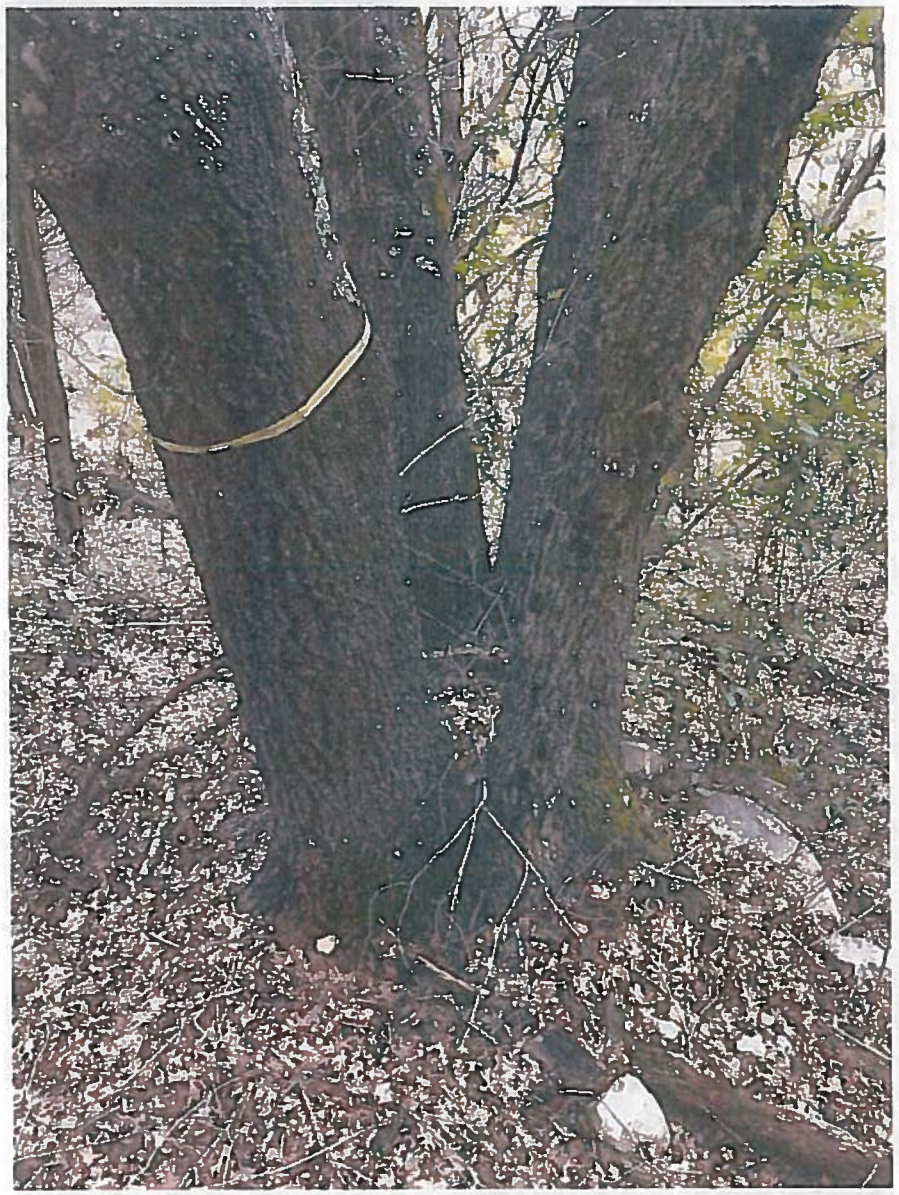
Tree 23179 : Red Oak

All of the stems on this tree are regrowth from an old rotten stump. Half the stems are dead and all have decay and structural defects



Tree 23231 ; Red Oak

Multi-stem tree with extensive decay at the base and root flare area. Armillaria mushrooms are present near the base of the tree.



23399 : Red Oak

Multi-stem tree with one stem already failed. Other stems have significant lean. High likelihood of extensive decay in the lower trunk and buttress roots.

23381, 23472, 24317

I was unable to find these trees. I think it is highly likely they have fallen or were misidentified.

Infrared Imagery

The infrared imagery below shows two trees that stand out and are circled on the image. I located these two trees in the field. The northern tree is the 20.5" live oak referenced previously in this report and the other is a group of two oaks: 17.5" multi-stem and 14" dbh red oaks. In the same way these two trees stand out on IR, they are also the best quality trees I observed in the field.

PHOTOS OF THE CIRCLED TREES BELOW

20.5" dbh Live Oak (northern tree circled above)

I was unable to get a good canopy photo due to surrounding vegetation.

17.5" dbh Red Oak (one of the trees in the southern circle above)

14" Red Oak (other tree in souther circle above)

Priority Areas of My Work

The red areas indicated below were identified to me as priority areas to inventory. I have thoroughly walked these areas and can confidently confirm there are no heritage trees in these areas. The one exception is the red area along the waterfront. I have not thoroughly inventoried these trees. In addition to the red areas, I have very thoroughly walked the center of the site and found no additional heritage trees. The large, yellow area to the north (low priority) are very steep slopes with no realistic possibility of significant trees. The medium priority, orange area in the center of the large yellow area is a drainage valley. The best trees from this north tract are surely located here but I don't expect they are significantly different from the large trees found on the southern slopes' drainage valleys (probably no heritage trees other than multi-stem red oaks).

Regards,
Keith Brown
Board Certified Master Arborist TX-0985BT
Austin Tree Experts

Exhibit F

May 31, 2018, updated July 6, 2018

Mr. Joel Wixson, P.E.
Kimley-Horn
10814 Jollyville Road, Avallon IV, Suite 300
Austin, Texas 78759

Telephone: 512 418-4525
Email: joel.wixson@kimley-horn

RE: **Environmental Resource Inventory (ERI)**
Camelback Tract
Bridgepoint Parkway and Coldwater Canyon Parkway
Austin, Travis County, Texas
Terracon Project No. 96187142

Dear Mr. Wixson:

Terracon Consultants, Inc. (Terracon) is pleased to submit this updated Environmental Resource Inventory (ERI) report addressing City of Austin (COA) compliance requirements as they may affect the above referenced project site in accordance with Terracon Proposal No. P96187142 dated February 27, 2018 and authorized on April 17, 2018.

The results of this report are based on the professional opinion of Terracon and site conditions observed during the field reconnaissance. It should be noted that some critical environmental features (CEFs) may be seasonal or ephemeral, indicating that their presence/absence and condition are dependent on various weather conditions (including rainfall) and other changes to the surrounding ecosystem.

Terracon is not liable for ephemeral and/or seasonal CEFs that are exposed or created after Terracon's field assessment. Additionally, Terracon's opinion is based on current COA regulations; therefore, changes in regulations may require a re-evaluation of the findings of this report.

It is recommended this report be promptly submitted to the COA, otherwise an updated report (based on an additional field assessment) may be required to evaluate ephemeral and/or CEFs.

It should be noted that the COA has the ultimate authority for CEF classifications.

We appreciate the opportunity to provide this report. If you have questions regarding the content of this report, please feel free to contact Miranda Reinhard at (512) 891-2692 or miranda.reinhard@terracon.com.

Sincerely,
Terracon Consultants, Inc.

Miranda Reinhard
Staff Scientist

Approved by:

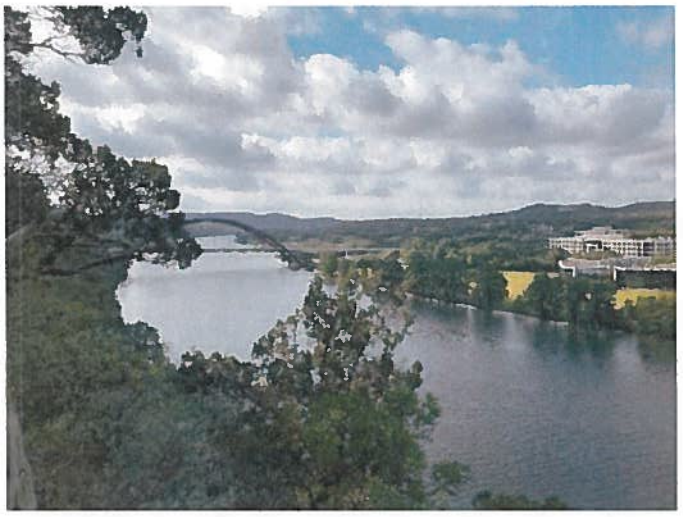
Ann M. Scott, PhD, RPA
Authorized Project Reviewer
Natural/Cultural Resources Group Manager

City of Austin Environmental Resource Inventory

Camelback Tract
Bridgepoint Parkway and Coldwater Canyon Parkway
Austin, Travis County, Texas

May 31, 2018, updated July 6, 2018

Terracon Project No. 96187142



Prepared for:
Kimley-Horn
Austin, Texas

Prepared by:
Terracon Consultants, Inc.
Austin, Texas

ENVIRONMENTAL RESOURCE INVENTORY FORM
FOR THE CITY OF AUSTIN
RELATED TO LDC 25-8-121, CITY CODE 30-5-121, ECM 1.3.0 & 1.10.0

APPENDICES

Case No.: _____
(City use only)

Environmental Resource Inventory

For the City of Austin
Related to LDC 25-8-121, City Code 30-5-121, ECM 1.3.0 & 1.10.0

The ERI is required for projects that meet one or more of the criteria listed in LDC 25-8-121(A), City Code 30-5-121(A).

1. SITE/PROJECT NAME: Camelback Tract

2. COUNTY APPRAISAL DISTRICT PROPERTY ID (#'s): 130428 and 474563

3. ADDRESS/LOCATION OF PROJECT: Bridgepoint Parkway & Coldwater Canyon Parkway, Austin

4. WATERSHED: Coldwater Creek and Lake Austin

5. THIS SITE IS WITHIN THE *(Check all that apply)*

   Edwards Aquifer Recharge Zone* *(See note below)* ..... ☐YES ■No
   Edwards Aquifer Contributing Zone* ..... ☐YES ■No
   Edwards Aquifer 1500 ft Verification Zone* ..... ☐YES ■No
   Barton Spring Zone* ..... ☐YES ■No
   **(as defined by the City of Austin – LDC 25-8-2 or City Code 30-5-2)*

   Note: If the property is over the Edwards Aquifer Recharge zone, the Hydrogeologic Report and karst surveys must be completed and signed by a Professional Geoscientist Licensed in the State of Texas.

6. DOES THIS PROJECT PROPOSE FLOODPLAIN MODIFICATION?.....☐YES** ■NO
   If yes, then check all that apply:
   - ☐ *(1) The floodplain modifications proposed are necessary to protect the public health and safety;*
   - ☐ *(2) The floodplain modifications proposed would provide a significant, demonstrable environmental benefit, as determined by a **functional assessment** of floodplain health as prescribed by the Environmental Criteria Manual (ECM), or*
   - ☐ *(3) The floodplain modifications proposed are necessary for development allowed in the critical water **quality zone under LDC 25-8-261 or 25-8-262, City Code 30-5-261 or 30-5-262.***
   - ☐ *(4) The floodplain modifications proposed are outside of the Critical Water Quality Zone in an area determined to be in poor or fair condition by a **functional assessment** of floodplain health.*

   **** If yes, then a functional assessment must be completed and attached to the ERI (see ECM 1.7 and Appendix X for forms and guidance) unless conditions 1 or 3 above apply.**

7. IF THE SITE IS WITHIN AN URBAN OR SUBURBAN WATERSHED, DOES THIS PROJECT PROPOSE A UTILITY LINE PARALLEL TO AND WITHIN THE CRITICAL WATER QUALITY ZONE? ..... ☐YES*** ■NO

   *****If yes, then riparian restoration is required by LDC 25-8-261(E) or City Code 30-5-261(E) and a functional assessment must be completed and attached to the ERI (see ECM1.5 and Appendix X for forms and guidance).**

8. There is a total of 44 (#'s) Critical Environmental Feature(s)(CEFs) on or within150 feet of the project site. If CEF(s) are present, attach a detailed **DESCRIPTION** of the CEF(s), color **PHOTOGRAPHS**, the **CEF WORKSHEET** and provide **DESCRIPTIONS** of the proposed CEF buffer(s) and/or wetland mitigation. Provide the number of each type of CEFs on or within 150 feet of the site (*Please provide the number of CEFs*):

26 (#'s) Spring(s)/Seep(s) 1 (#'s) Point Recharge Feature(s) 1 (#'s) Bluff(s)
10 (#'s) Canyon Rimrock(s) 6 (#'s) Wetland(s)

Note: Standard buffers for CEFs are 150 feet, with a maximum of 300 feet for point recharge features. Except for wetlands, if the standard buffer is not provided, you must provide a written request for an administrative variance from LDC 25-8-281(C)(1) and provide written findings of fact to support your request. Request forms for administrative variances from requirements stated in LDC 25-8-281 are available from Watershed Protection Department.

9. The following site maps are attached at the end of this report *(Check all that apply and provide):*

All ERI reports must include:

- ■ **Site Specific Geologic Map with 2-ft Topography**
- ■ **Historic Aerial Photo of the Site**
- ■ **Site Soil Map**
- ■ **Critical Environmental Features and Well Location Map on current Aerial Photo with 2-ft Topography**

Only if present on site *(Maps can be combined):*

- ☐ **Edwards Aquifer Recharge Zone with the 1500-ft Verification Zone**
  (Only if site is over or within 1500 feet the recharge zone)
- ☐ **Edwards Aquifer Contributing Zone**
- ■ **Water Quality Transition Zone (WQTZ)**
- ■ **Critical Water Quality Zone (CWQZ)**
- ☐ **City of Austin Fully Developed Floodplains for all water courses with up to 64-acres of drainage**

10. **HYDROGEOLOGIC REPORT –** Provide a description of site soils, topography, and site specific geology below *(Attach additional sheets if needed):*

Surface Soils on the project site is summarized in the table below and uses the SCS Hydrologic Soil Groups*. If there is more than one soil unit on the project site, show each soil unit on the site soils map.

Soil Series Unit Names, Infiltration Characteristics & Thickness		
Soil Series Unit Name & Subgroup**	Group*	Thickness (feet)
BID - (Appendix A for name)	D	0-4'
BoF - (Appendix A for name)	D	0-5'
TaD - (Appendix A for name)	D	0-1'
TdF - (Appendix A for name)	D	0-1'
Ya - (Appendix A for name)	A	0-6'

Soil Hydrologic Groups Definitions *(Abbreviated)

A. Soils having a high infiltration rate when thoroughly wetted.

B. Soils having a moderate *infiltration* rate when thoroughly wetted.

C. Soils having a slow infiltration rate when thoroughly wetted.

D. Soils having a very slow infiltration rate when thoroughly wetted.

**Subgroup Classification – See Classification of Soil Series Table in County Soil Survey.

Description of Site Topography and Drainage *(Attach additional sheets if needed)*:

Based on a review of the 1981 USGS Austin West, Texas topographic map, site elevation is depicted from approximately 500 to 920 feet above sea level. A topographic uplift is depicted in the southwest portion of the site. An unnamed tributary to the Colorado River transects the site from the northwest to the southeast and the site is bounded by the Colorado River (known locally as Lake Austin) to the south.
Continued in Appendix A...

List surface geologic units below:

Geologic Units Exposed at Surface		
Group	Formation	Member
Trinity Group	Upper Glen Rose Limestone(Kgru)	N/A
Fredericksburg Group	Walnut Formation (Kfr)	N/A

Brief description of site geology *(Attach additional sheets if needed)*:

According to the Geologic Atlas of Texas, the site is underlain by the Upper Glen Rose Formation (Kgru) and the Fredericksburg Group (Kfr). Kgru which consists of gray to tan; thick to thin bedded; fine to medium grained; alternating hard and soft layers of limestone, dolomite, and marl. The upper member of the Glen Rose consists of shale and marl alternating with thin beds of limestone and dolomite; this alternating bedding forms stair-step topography. The upper 100 feet is typically heavily weathered and contains abundant porous soft dolomite and burrowed limestone resulting in many springs. The Glen Rose Formation forms the lower confining unit to the Edwards aquifer. This formation has the ability to form solution and collapse caves and voids suitable for utilization by Terrestrial Karst Invertebrates (TKIs).
Continued in Appendix A...

Wells – Identify all recorded and unrecorded wells on site (test holes, monitoring, water, oil, unplugged, capped and/or abandoned wells, etc.):

There are 0 (#) wells present on the project site and the locations are shown and labeled

___(#'s)The wells are not in use and have been properly abandoned.

___(#'s)The wells are not in use and will be properly abandoned.

___(#'s)The wells are in use and comply with 16 TAC Chapter 76.

There are 0 (#'s) wells that are off-site and within 150 feet of this site.

11. **THE VEGETATION REPORT** – Provide the information requested below:

Brief description of site plant communities *(Attach additional sheets if needed)*:

The site is located within the Balcones Canyonlands region of the Edwards Plateau physiographic province (Gould, 1960). The vegetation in the region is classified as juniper-oak savanna and is dominated primarily by woodland vegetation. Grasslands are generally restricted to drainage divides and associated valleys (Amos and Gehlbach, 1988). Mesic (moist) slopes generally support deciduous woodlands dominated by Texas oak (*Quercus texana*), plateau live oak (*Q. fusiformis*), Ashe juniper (*Juniperus ashei*), and Texas ash (*Fraxinus texensis*).
Continued in Appendix A...

There is woodland community on site .....■YES ☐ NO *(Check one)*.
If yes, list the dominant species below:

Woodland species	
Common Name	Scientific Name
Escarpment oak	*Quercus fusiformis*
Ashe juniper	*Juniperus ashei*
Texas red oak	*Quercus buckleyi*
eastern red cedar	*Juniperus virginiana*
mountain laurel	*Sophora secundiflora*

There is grassland/prairie/savanna on site.....■YES ☐ NO *(Check one)*.
If yes, list the dominant species below:

Grassland/prairie/savanna species	
Common Name	Scientific Name
silvery bluestem	*Bothriochloa saccharoides*
western ragweed	*Ambrosia psilostachya*
Bermuda grass	*Cynodon dactylon*
agarita	*Mahonia trifoliolata*
greenbrier	*Smilax bona-nox*
prickly pear cactus	*Opuntia spp.*
twisted leaf yucca	*Yucca rupicola*

There is hydrophytic vegetation on site .....■YES ☐ NO *(Check one)*.
If yes, list the dominant species in table below *(next page)*:

Hydrophytic plant species		
Common Name	Scientific Name	Wetland Indicator Status
maidenhair fern	*Adiantum capillus -veneris*	FACW
Virginia chain fern	*Woodwardia virginica*	OBL
common spike-rush	*Eleocharis palustris*	OBL
Emory's sedge	*Carex emoryi*	OBL
small-spike false nettle	*Boehmeria cylindrica*	FACW
California bulrush	*Schoenoplectus californicus*	OBL
Lindheimer's muhly	*Muhlenbergia lindheimeri*	FACW

A tree survey of all trees with a diameter of at least eight inches measured four and one-half feet above natural grade level has been completed on the site.
☐YES ■ NO *(Check one).* A partial tree survey has been completed. An additional tree survey of the proposed development areas is currently underway.

12. **WASTEWATER REPORT –** Provide the information requested below.

Wastewater for the site will be treated by *(Check of that Apply)*:

☐ On-site system(s)

■ City of Austin Centralized sewage collection system

☐ Other Centralized collection system

Note: All sites that receive water or wastewater service from the Austin Water Utility must comply with City Code Chapter 15-12 and wells must be registered with the City of Austin

The site sewage collection system is designed and will be constructed to in accordance to all State, County and City standard specifications.
☒YES ☐ NO *(Check one).*

Calculations of the size of the drainfield or wastewater irrigation area(s) are attached at the end of this report or shown on the site plan.
☐YES ☐ NO ☒ Not Applicable *(Check one).*

Wastewater lines are proposed within the Critical Water Quality Zone?
☐YES ☒ NO *(Check one).* If yes, then provide justification below:

Is the project site is over the Edwards Aquifer?
☐YES ■ NO *(Check one).*

If yes, then describe the wastewater disposal systems proposed for the site, its treatment level and effects on receiving watercourses or the Edwards Aquifer.

13. One (1) hard copy and one (1) electronic copy of the completed assessment have been provided.

Date(s) ERI Field Assessment was performed: May 8,9, & 21, 2018; June 4, 6, 7, 8, & 26, 2018
Date(s)

My signature certifies that to the best of my knowledge, the responses on this form accurately reflect all information requested.

Miranda Reinhard	(512) 442-1122
Print Name	Telephone
	Miranda.Reinhard@terracon.com
Signature	Email Address
Terracon Consultants, Inc.	July 6, 2018
Name of Company	Date

For project sites within the Edwards Aquifer Recharge Zone, my signature and seal also certifies that I am a licensed Professional Geoscientist in the State of Texas as defined by ECM 1.12.3(A).

P.G.
Seal

City of Austin Environmental Resource Inventory - Critical Environmental Feature Worksheet

1	Project Name:	Camelback Tract
2	Project Address:	Bridgepoint & Coldwater Canyon Pkwys, Austin
3	Site Visit Date:	May 8, 9 & 21, 2018; June 4, 6, 7, 8 & 26, 2018.
4	Environmental Resource Inventory Date:	May 31, 2018; Updated July 6, 2018

5	Primary Contact Name:	Miranda Reinhard
6	Phone Number:	(512) 442-1122
7	Prepared By:	Terracon Consultants, Inc.
8	Email Address:	Miranda.Reinhard@terracon.com

9	FEATURE TYPE (Wetland,Rimrock, Bluffs,Recharge Feature,Spring)	FEATURE ID (eg S-1)	FEATURE LONGITUDE (WGS 1984 in Meters)		FEATURE LATITUDE (WGS 1984 in Meters)		WETLAND DIMENSIONS (ft)		RIMROCK/BLUFF DIMENSIONS (ft)		RECHARGE FEATURE DIMENSIONS				Springs Est. Discharge
			coordinate	notation	coordinate	notation	X	Y	Length	Avg Height	X	Y	Z	Trend	cfs
	Spring/Seep	S-1	-97.804376	W	30.356048	N									<1
	Spring/Seep	S-2	-97.804640	W	30.357632	N									<1
	Spring/Seep	S-3	-97.804540	W	30.357788	N									<1
	Spring/Seep	S-4	-97.804287	W	30.358079	N									<1
	Spring/Seep	S-5	-97.804802	W	30.358061	N									<1
	Spring/Seep	S-6	-97.804830	W	30.358476	N									<1
	Spring/Seep	S-7	-97.806658	W	30.357732	N									<1
	Spring/Seep	S-8	-97.806990	W	30.357874	N									<1
	Spring/Seep	S-9	-97.807213	W	30.357940	N									<1
	Spring/Seep	S-10	-97.807343	W	30.358039	N									<1
	Spring/Seep	S-11	-97.807319	W	30.358560	N									<1
	Spring/Seep	S-12	-97.807238	W	30.358856	N									<1
	Spring/Seep	S-13	-97.807561	W	30.358212	N									<1
	Spring/Seep	S-14	-97.808155	W	30.358366	N									<1
	Spring/Seep	S-15	-97.808230	W	30.358405	N									<1
	Spring/Seep	S-16	-97.808336	W	30.358420	N									<1
	Spring/Seep	S-17	-97.808542	W	30.358528	N									<1

City of Austin Use Only CASE NUMBER:	

Legend:
* = Previously Identified CEF (4/8/2015)

For rimrock, locate the midpoint of the segment that describes the feature.

For wetlands, locate the approximate centroid of the feature and the estimated area.

For a spring or seep, locate the source of groundwater that feeds a pool or stream.

Please state the method of coordinate data collection and the approximate precision and accuracy of the points and the unit of measurement.

Method		Accuracy	
GPS	☑	sub-meter	☑
Surveyed	☐	meter	☐
Other	☐	> 1 meter	☐

Professional Geologists apply seal below

City of Austin Environmental Resource Inventory - Critical Environmental Feature Worksheet

1	Project Name:	Camelback Tract
2	Project Address:	Bridgepoint & Coldwater Canyon Pkwys, Austin
3	Site Visit Date:	May 8, 9 & 21, 2018; June 4, 6, 7, 8 & 26, 2018.
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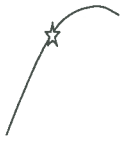
5	Primary Contact Name:	Miranda Reinhard
6	Phone Number:	(512) 442-1122
7	Prepared By:	Terracon Consultants, Inc.
8	Email Address:	Miranda.Reinhard@terracon.com

9	FEATURE TYPE (Wetland,Rimrock, Bluffs,Recharge Feature,Spring)	FEATURE ID (eg S-1)	FEATURE LONGITUDE (WGS 1984 in Meters)		FEATURE LATITUDE (WGS 1984 in Meters)		WETLAND DIMENSIONS (ft)		RIMROCK/BLUFF DIMENSIONS (ft)		RECHARGE FEATURE DIMENSIONS				Springs Est. Discharge
			coordinate	notation	coordinate	notation	X	Y	Length	Avg Height	X	Y	Z	Trend	cfs
	Spring/Seep	S-18	-97.809134	W	30.359360	N									<1
	Spring/Seep	S-19	-97.809161	W	30.359512	N									<1
	Spring/Seep	S-20	-97.809155	W	30.359774	N									<1
	Spring/Seep	S-21	-97.809155	W	30.359774	N									<1
	Spring/Seep	S-22*	-97.808298	W	30.353309	N									<1
	Spring/Seep	S-23	-97.799036	W	30.353080	N									<1
	Spring/Seep	S-24	-97.798928	W	30.353043	N									<1
	Spring/Seep	S-25	-97.798549	W	30.352796	N									<1
	Spring/Seep	S-26	-97.798548	W	30.352737	N									<1
	Rimrock	R-1	-97.804303	W	30.355998	N			~50	~6-8					
	Rimrock	R-2	-97.805128	W	30.356516	N			~50	~6					
	Rimrock	R-3	-97.805345	W	30.357169	N			~50	~4					
	Rimrock	R-4	-97.805846	W	30.357659	N			~70	~5					
	Rimrock	R-5*	-97.807878	W	30.353472	N			~50	~8					
	Rimrock	R-6*	-97.806578	W	30.353846	N			~50	~4					
	Rimrock	R-7	-97.805942	W	30.354077	N			~50	~5					
	Rimrock	R-8	-97.804098	W	30.353746	N			~70	~8					

City of Austin Use Only CASE NUMBER:	

Legend:
* = Previously Identified CEF (4/8/2015)

For rimrock, locate the midpoint of the segment that describes the feature.



For wetlands, locate the approximate centroid of the feature and the estimated area.

For a spring or seep, locate the source of groundwater that feeds a pool or stream.

Please state the method of coordinate data collection and the approximate precision and accuracy of the points and the unit of measurement.

Method		Accuracy	
GPS	☒	sub-meter	☒
Surveyed	☐	meter	☐
Other	☐	> 1 meter	☐

Professional Geologists apply seal below

City of Austin Environmental Resource Inventory - Critical Environmental Feature Worksheet

1	Project Name:	Camelback Tract
2	Project Address:	Bridgepoint & Coldwater Canyon Pkwys, Austin
3	Site Visit Date:	May 8, 9 & 21, 2018; June 4, 6, 7, 8 & 26, 2018.
4	Environmental Resource Inventory Date:	May 31, 2018; Updated July 6, 2018

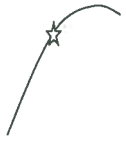
5	Primary Contact Name:	Miranda Reinhard
6	Phone Number:	(512) 442-1122
7	Prepared By:	Terracon Consultants, Inc.
8	Email Address:	Miranda.Reinhard@terracon.com

9	FEATURE TYPE {Wetland,Rimrock, Bluffs,Recharge Feature,Spring}	FEATURE ID (eg S-1)	FEATURE LONGITUDE (WGS 1984 in Meters)		FEATURE LATITUDE (WGS 1984 in Meters)		WETLAND DIMENSIONS (ft)		RIMROCK/BLUFF DIMENSIONS (ft)		RECHARGE FEATURE DIMENSIONS				Springs Est. Discharge
			coordinate	notation	coordinate	notation	X	Y	Length	Avg Height	X	Y	Z	Trend	cfs
	Rimrock	R-9	-97.802719	W	30.354073	N			~50	~4					
	Rimrock	R-10	-97.798966	W	30.353025	N			~90	~4-8					
	Point Recharge Feature	K-1	-97.808578	W	30.356327	N					~2	~6	~7		
	Wetland	W-1	-97.803492	W	30.354955	N	~20	~10							
	Wetland	W-2	-97.804287	W	30.358079	N	~10	~10							
	Wetland	W-3	-97.804802	W	30.358061	N	~10	~10							
	Wetland	W-4	-97.807337	W	30.358514	N	~8	~240							
	Wetland	W-5	-97.809167	W	30.359677	N	~8	~140							
	Wetland	W-6	-97.806315	W	-97.806315	N	~1,020	~40-122							
	Bluff	B-1	-97.801395	W	30.353260	N			~3,300	~110					

City of Austin Use Only CASE NUMBER:	

Legend:
* = Previously Identified CEF (4/8/2015)

For rimrock, locate the midpoint of the segment that describes the feature.



For wetlands, locate the approximate centroid of the feature and the estimated area.

For a spring or seep, locate the source of groundwater that feeds a pool or stream.

Please state the method of coordinate data collection and the approximate precision and accuracy of the points and the unit of measurement.

Method		Accuracy	
GPS	☑	sub-meter	☑
Surveyed	☐	meter	☐
Other	☐	> 1 meter	☐

Professional Geologists apply seal below

APPENDIX A
ADDITIONAL DISCUSSION

Surface Soils:
BID – Brackett-Rock outcrop complex, 1 to 12 percent slopes
BoF – Brackett-Rock outcrop-Real complex, 8 to 30 percent slopes
TaD – Tarrant soils, 5 to 18 percent slopes
TdF – Tarrant-Rock outcrop complex, 18 to 50 percent slopes
Ya – Yahola very fine sandy loam, 0 to 1 percent slopes, occasionally flooded
W – Water

Description of Site Topography and Drainage Continued…
The National Wetlands Inventory (NWI) Map of the project site was reviewed to identify suspect wetland areas and waterbodies within the project site boundaries. The review of the NWI map indicated the presence of three suspect waterbodies in the project site. These areas are further described below:

- Waterbody (R4SBC) is depicted transecting the central portion of the project site. R4SBC is further described as a riverine, intermittent, streambed that is seasonally flooded.
- Forested wetland (PSS1A) is depicted in the southwest portion of the project site. PSS1A is further described as a palustrine, scrub-shrub, broad-leaved deciduous area that is temporary flooded.
- Waterbody (L1UBHh) is depicted in the south portion of the site. L1UBHh is further described as a lacustrine, limnetic, unconsolidated bottom area that is permanently flooded and is diked/impounded.

Other suspect wetlands or waterbodies are not depicted on the project site or within 150 feet of the site.

Additionally, as mapped by the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panel No. 48453C0435J (Effective January 6, 2016), the majority of the project site is mapped outside the 100-year and 500-year floodplain zones and is in Zone X (unshaded). South portions of the site are mapped in 100-year floodplain (Zone A) and 500-year floodplain (Zone C shaded).

Terracon accessed (May 4, 2018) the City of Austin (COA) Development Web Map to review previously identified Natural Features and setbacks within and adjoining the site. The review of the COA Development Web Map indicated the presence of 24 natural feature and three setbacks/buffers. These areas are further described below:

- Lake Austin (Object ID: 325, Lakes ID: 2) is mapped adjoining the project site to the south.
- A northwest-southeast oriented creek (Object ID: 26939, Creek ID: 8364) is mapped in the northwest portion of the project.
- A northwest-southeast oriented creek (Object ID: 96537, Creek ID: 46109) is mapped in the northwest portion of the project.

- A northwest-southeast oriented creek (Object ID: 97582, Creek ID: 46103) is mapped in the northwest portion of the project.
- A northwest-southeast oriented creek (Object ID: 68399, Creek ID: 28511) is mapped in the northwest portion of the project.
- A northwest-southeast oriented creek (Object ID: 29678, Creek ID: 8366) is mapped in the northwest portion of the project.
- A northwest-southeast oriented creek (Object ID: 74479, Creek ID: 32581) is mapped in the northwest portion of the project.
- A northwest-southeast oriented creek (Object ID: 97581, Creek ID: 46102) is mapped in the northwest portion of the project.
- A northeast-southwest oriented creek (Object ID: 30511, Creek ID: 6372) is mapped in the central portion of the project.
- A northwest-southeast oriented creek (Object ID: 27379, Creek ID: 6351) is mapped in the central portion of the project.
- A northwest-southeast oriented creek (Object ID: 99535, Creek ID: 46115) is mapped in the northeast portion of the project.
- A northeast-southwest oriented creek (Object ID: 60504, Creek ID: 25204) is mapped in the northeast portion of the project.
- A northeast-southwest oriented creek (Object ID: 200, Creek ID: 31827) is mapped in the northeast portion of the project.
- A northwest-southeast oriented creek (Object ID: 80830, Creek ID: 50667) is mapped in the southeast portion of the project.
- A northwest-southeast oriented creek (Object ID: 30058, Creek ID: 7732) is mapped to the southeast of the project.
- A northeast-southwest oriented creek (Object ID: 99, Creek ID: 31723) is mapped in the southeast portion of the project.
- A northeast-southwest oriented creek (Object ID: 95678, Creek ID: 45281) is mapped off-site to the northeast of the project.
- A northwest-southeast oriented creek (Object ID: 97661, Creek ID: 46270) is mapped off-site to the northeast of the project.
- A northwest-southeast oriented creek (Object ID: 94559, Creek ID: 29078) is mapped in the southeast portion of the project.
- A northeast-southwest oriented creek (Object ID: 73109, Creek ID: 32398) is mapped off-site to the southwest of the project.
- A northeast-southwest oriented creek (Object ID: 65232, Creek ID: 24383) is mapped in the southwest portion of the project.
- A northeast-southwest oriented creek (Object ID: 27469, Creek ID: 7754) is mapped off-site to the northeast of the project.
- A northwest-southeast oriented creek (Object ID: 27382, Creek ID: 6354) is mapped off-site to the east of the project.

- A northeast-southwest oriented creek (Object ID: 75232, Creek ID: 33271) is mapped off-site to the east of the project.
- A Critical Water Quality Zone (Object ID: 24903, Creek Buffer ID: 1828) is mapped in the south portion of the site.
- A Critical Water Quality Zone (Object ID: 24900, Creek Buffers ID: 1825) is mapped transecting the central portion of the site.
- A Water Quality Transition Zone (Object ID: 24897, Creek Buffers ID: 1822) is mapped transecting the central portion of the site.

For additional information please refer to the online COA Development Web Map (http://www.austintexas.gov/GIS/developmentwebmap/Viewer.aspx).

Brief Description of Site Geology

Remnant Fredericksburg Group (Kfr) strata was observed on the topographic high areas in the northwestern and south central portions of the site. The Fredericksburg Group deposits mapped onsite include the Walnut Formation (Kwa). The Walnut Formation is composed of limestone and marl and underlies the Edwards Limestone. The formation is generally not a water bearing unit and forms part of the lower confining unit of the Edwards Aquifer.

No evidence of faulting was observed on the site and none is shown on any of the available published geologic maps of the area. Additionally, a review of aerial photographs did not reveal any lineations, which typically indicate the presence of faulting. The nearest mapped fault is located approximately two miles east of the site. The fault, known as the Mount Bonnell Fault, trends toward the northeast, and is associated with the Balcones Fault zone which represents the dominant structural trend in the vicinity of the site and forms the edge of the Edwards Aquifer recharge zone.

Field Reconnaissance

During the site reconnaissance and subsequent field visits with COA staff, Terracon assessed areas for CEF characteristics throughout the project site and identified 26 CEF spring/seep areas, one CEF bluff area, one CEF point recharge feature area, 10 CEF rimrock areas, and six CEF wetland areas. Coordinate locations for the CEF areas are listed in the above CEF Worksheet and are illustrated on Exhibits 2.0 and 2.1 in Appendix B. The CEF areas are further described below:

Spring/Seeps S-1 through S-21 and S-23 through S-26 displayed moss lines and flowing water during the site visits. Each of these spring/seeps displayed at least one of the following characteristics: moisture, standing/stagnant water, and hydrophytic vegetation including Emory's sedge (*Carex emoryi* - OBL), Virginia chain fern (*Woodwardia virginica* - OBL), and/or maidenhair fern (*Adiantum capillus -veneris* - FACW).

Bluff B-1 is located in the south portion of the site and continues beyond the east and west site boundaries.

Point Recharge Features K-1 was observed in the southcentral portion of the site. Dimensions of the feature were approximated.

In order to further evaluate a suspected geologic karst feature, Terracon personnel hand excavated the feature on May 21 and June 6, 2018. The feature excavation and evaluation was conducted by Mr. Russell C. Ford, P.G., and Mr. Anthony Reid, G.I.T., of Terracon. The feature which was further evaluated has been identified as K-1. At the feature location, loose rock and debris was hand excavated down to either bedrock or compacted clay and the feature was evaluated for recharge potential. Photographs of the feature prior to excavation and following excavation are attached in Appendix C. The following provides a description of the feature evaluated:

- Feature K-1 is classified as a solution enlarged fracture located within the Walnut Formation. The feature consists of two intersecting fractures; the primary fracture trends N85°E and the secondary fracture is nearly normal to this fracture and trends N15°W. Neither of the fractures corresponds to the dominant structural trend of the area, which is toward the northeast. The primary fracture measures approximately 3 inches wide and 30 inches long and extends vertically to about 36 inches where it appears to pinch closed. The secondary fracture measures about 8-inches wide by 24 inches long and extends vertically to about 7 feet deep where it appears to pinch closed. The feature has a limited catchment area and its potential for recharge is considered low to moderate. The feature is considered to be a CEF and a developmental buffer appears to be warranted.

In order to further evaluate some additional suspected geologic karst features, Terracon personnel hand excavated selected features on May 21, 2018 and June 6 and 7,2018. The feature excavation and evaluation was conducted by Mr. Russell C. Ford, P.G., of Terracon. These features were not considered to be a critical environmental features (CEFs).

Rimrock features R-1 through R-4 and R-7 through R-10 were observed throughout the site. Rimrock dimensions were approximated by Terracon field staff.

Spring/Seep S-22 and Rimrock features R-5 and R-6 were observed and identified on April 8, 2015 during a previous COA ERI site visit conducting by Terracon. During the May 8-9, 2018 site visit, Terracon was unable to access and locate these features. According to the previous 2015 COA ERI, Spring/Seep S-22 displayed some hydrophytic vegetation including common fern (*Onoclea sensibilis*), and moss lines and flowing water were observed during the previous site visit.

Wetland W-1 is dominated by common spike-rush (*Eleocharis palustris* - OBL), Emory's sedge (*Carex emoryi*), and Roosevelt weed (*Baccharis neglecta* - FACW) throughout the wetland and displays surface water and saturation. W-1 appears to be associated with a natural channel (Object ID: 80830; Creek ID: 50667) and R4SBC in the southeast portion of the site.

Spring/Seep S-4 and Wetland W-2 is dominated by Lindheimer's muhly (*Muhlenbergia lindheimeri* – FACW), seep muhly (*Muhlenbergia reverchonii* – FAC), and tapered rosette grass (*Dichanthelium acuminatum* – FAC) throughout the seep/wetland area and displays surface water and saturation along an unnamed tributary. S-4/W-2 appears to be associated with a natural channel (Object ID: 60504, Creek ID: 25204) in the northeast portion of the site.

Spring/Seep S-5 and Wetland W-3 is dominated by Lindheimer's muhly (*Muhlenbergia lindheimeri* – FACW), seep muhly (*Muhlenbergia reverchonii* – FAC), and tapered rosette grass (*Dichanthelium acuminatum* – FAC) throughout the seep/wetland area and displays surface water and saturation along an unnamed tributary. S-5/W-3 appears to be associated with a natural channel (Object ID: 99535, Creek ID: 46115) in the northeast portion of the site.

Wetland W-4 is dominated by Lindheimer's muhly (*Muhlenbergia lindheimeri* – FACW) throughout the wetland and displays pockets of surface water and saturation along an unnamed tributary. W-2 appears to be a fringe wetland associated with a natural channel (Object ID: 30511; Creek ID: 6372) in the central portion of the site.

Wetland W-5 is dominated by Lindheimer's muhly (*Muhlenbergia lindheimeri* – FACW) and brookweed (*Samolus parviflorus* – OBL) throughout the wetland and displays pockets of surface water and saturation along an unnamed tributary. W-3 appears to be a fringe wetland associated with two natural channels (Object ID: 96537; Creek ID: 46109; and Object ID: 97582, Creek ID: 46103) and R4SBC in the northwest portion of the site.

Wetland W-6 is dominated by small-spike false nettle (*Boehmeria cylindrica* - FACW), smooth horsetail (*Equisetum laevigatum* – FAC), California bulrush (*Schoenoplectus californicus* – OBL), elephant ear (*Colocasia esculenta* – OBL), Chinese tallow tree (*Triadica sebifera* - FAC), whorled pennywort (*Hydrocotyle verticillata*), curly dock (*Rumex crispus* – FAC), and black willow (*Salix nigra* - FACW) throughout the wetland and displays surface water and saturation along the Colorado River. W-4 appears to be associated with (Object ID: 325, Lakes ID: 2) and PSS1A in the southwest portion of the site. Terracon also observed some upland vegetation throughout the wetland area including Turk's cap (Malvaviscus arboreus var. drummondii), greenbriar (*Smilax bona-nox*), wild rye (*Elymus spp.*), wild grape (*Vitis spp.*), and *Iris spp.*

Due to steep elevation Terracon personnel were not able to access a portion of the site. See Exhibits 2.0 and 2.1, attached, for the area not accessible.

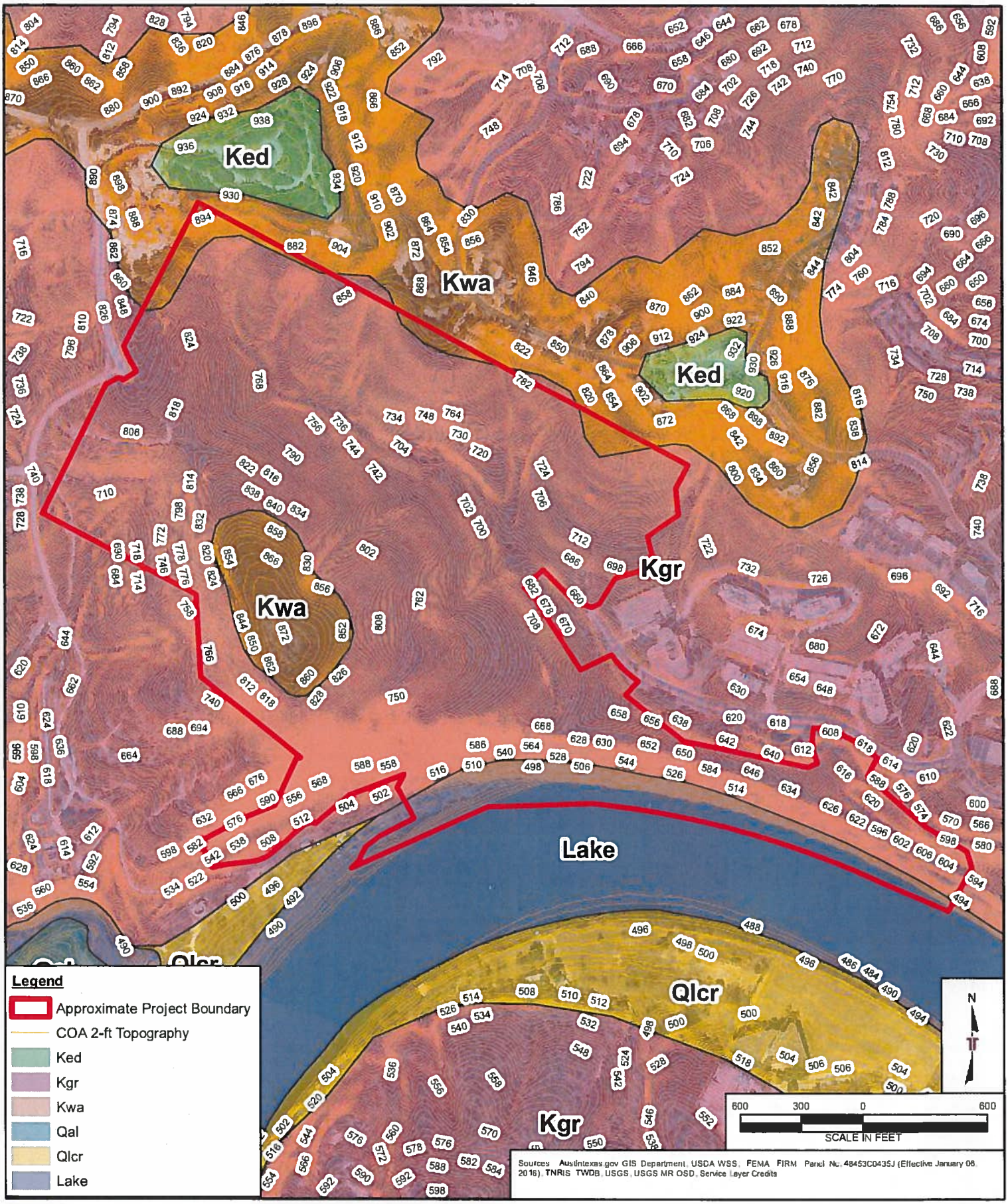
CEF dimensions were approximated by Terracon field staff.

Description of Site Plant Communities *Continued...*

During the site visit, Terracon assessed I areas that represented different vegetative communities throughout the project site to thoroughly review if these areas may exhibit hydrophytic vegetation. Upland vegetative communities were observed to be dominated by species including escarpment oak (*Quercus fusiformis*), Ashe juniper (*Juniperus ashei*), Texas red oak (*Quercus buckleyi*), eastern red cedar (*Juniperus virginiana*), mountain laurel (*Sophora secundiflora*). Dominant herbaceous vegetation includes silvery bluestem (*Bothriochloa saccharoides*), western ragweed (*Ambrosia psilostachya*), Bermuda grass (*Cynodon dactylon*), agarita (*Mahonia trifoliolata*), greenbrier (*Smilax bona-nox*), prickly pear cactus (*Opuntia spp.*), and twisted leaf yucca (*Yucca rupicola*). Overall canopy cover for the site is an estimated 95 percent.

Hydrophytic plant species are listed above in the Field Reconnaissance section.

APPENDIX B
EXHIBITS



Project Mngr:	MR
Drawn By:	Terracon
Checked By:	CG
Approved By:	AS

Project No.	96187142
Scale:	AS SHOWN
File No.:	96187142
Date:	Jun 15, 2018

Terracon
Consulting Engineers & Scientists
5307 INDUSTRIAL OAKS BLVD. - #160 AUSTIN, TX 78735
PH. (512) 442-1122 FAX. (512) 442-1181

Site Specific Geologic Map with 2-ft Topography

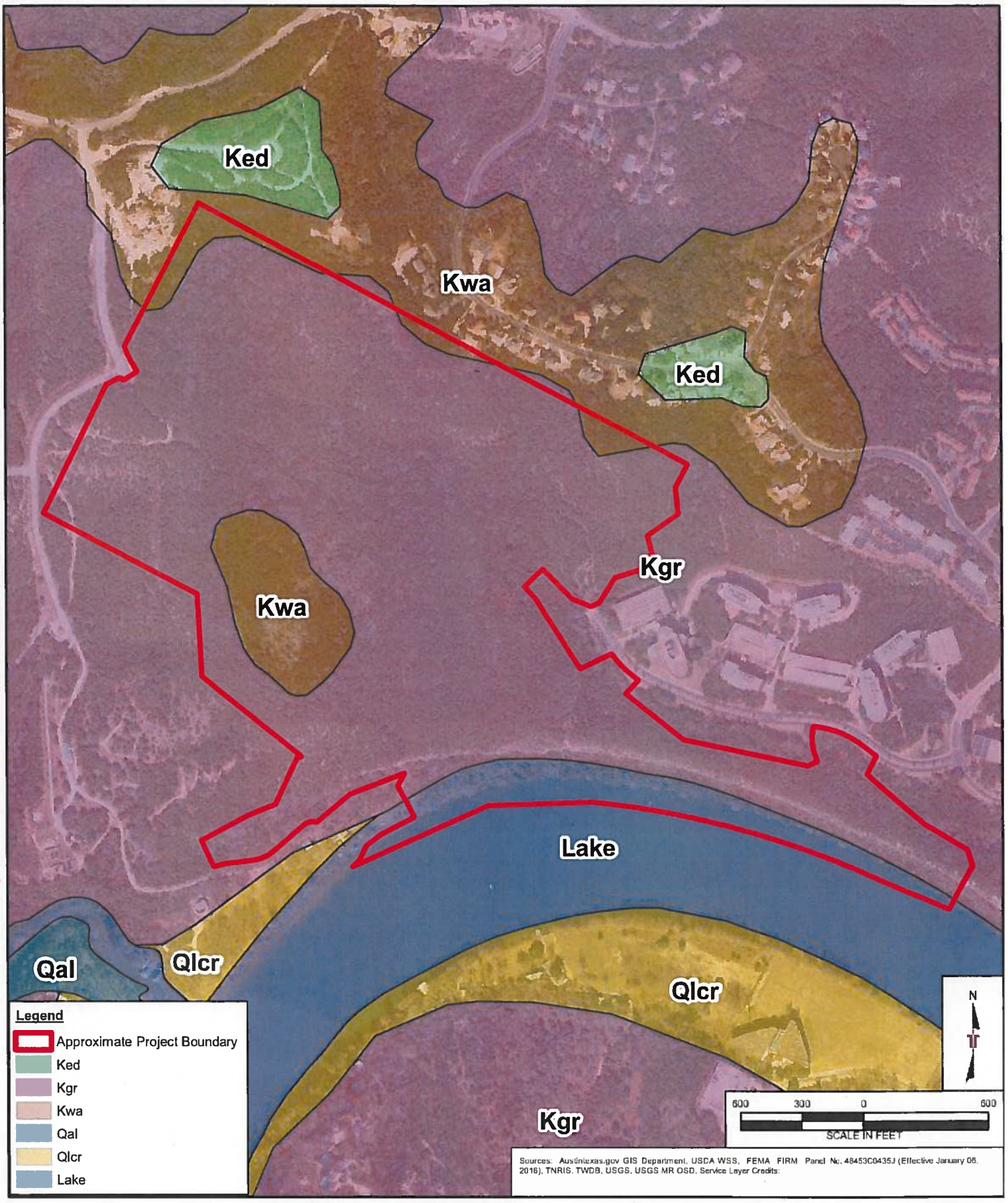
Camelback Tract

Bridgepoint Parkway and Coldwater Canyon Parkway

Austin, Travis County, Texas

EXHIBIT

1.0



Project Mngr:	MR
Drawn By:	Terracon
Checked By:	CG
Approved By:	AS

Project No.	96187142
Scale	AS SHOWN
File No.:	96187142
Date:	Jun 15, 2018

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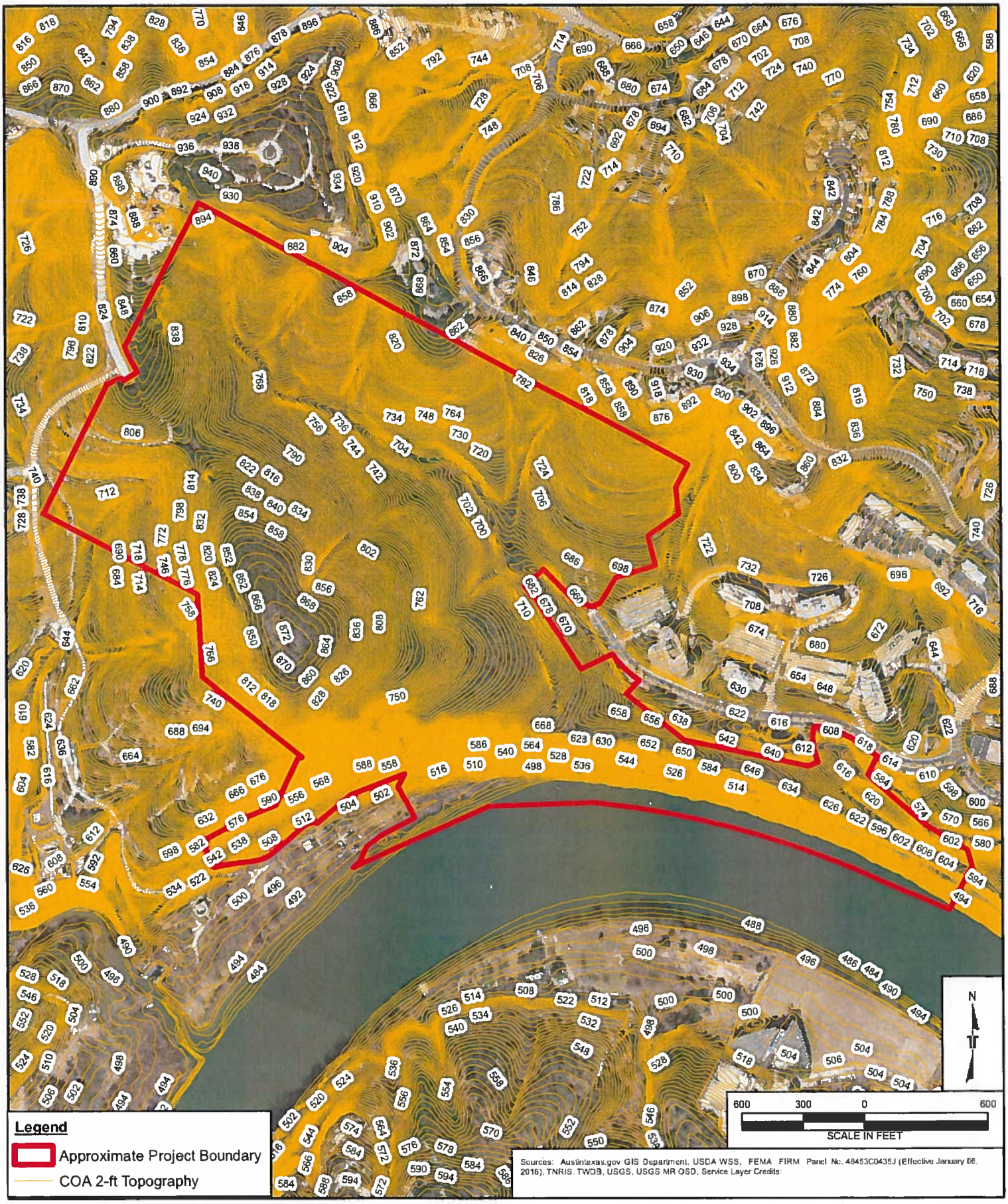
Site Specific Geologic Map

Camelback Tract

Bridgepoint Parkway and Coldwater Canyon Parkway
Austin, Travis County, Texas

EXHIBIT

1.1



Project Mngr:	MR
Drawn By:	Terracon
Checked By:	CG
Approved By:	AS

Project No.	96187142
Scale:	AS SHOWN
File No.:	96187142
Date:	Jun 15, 2018

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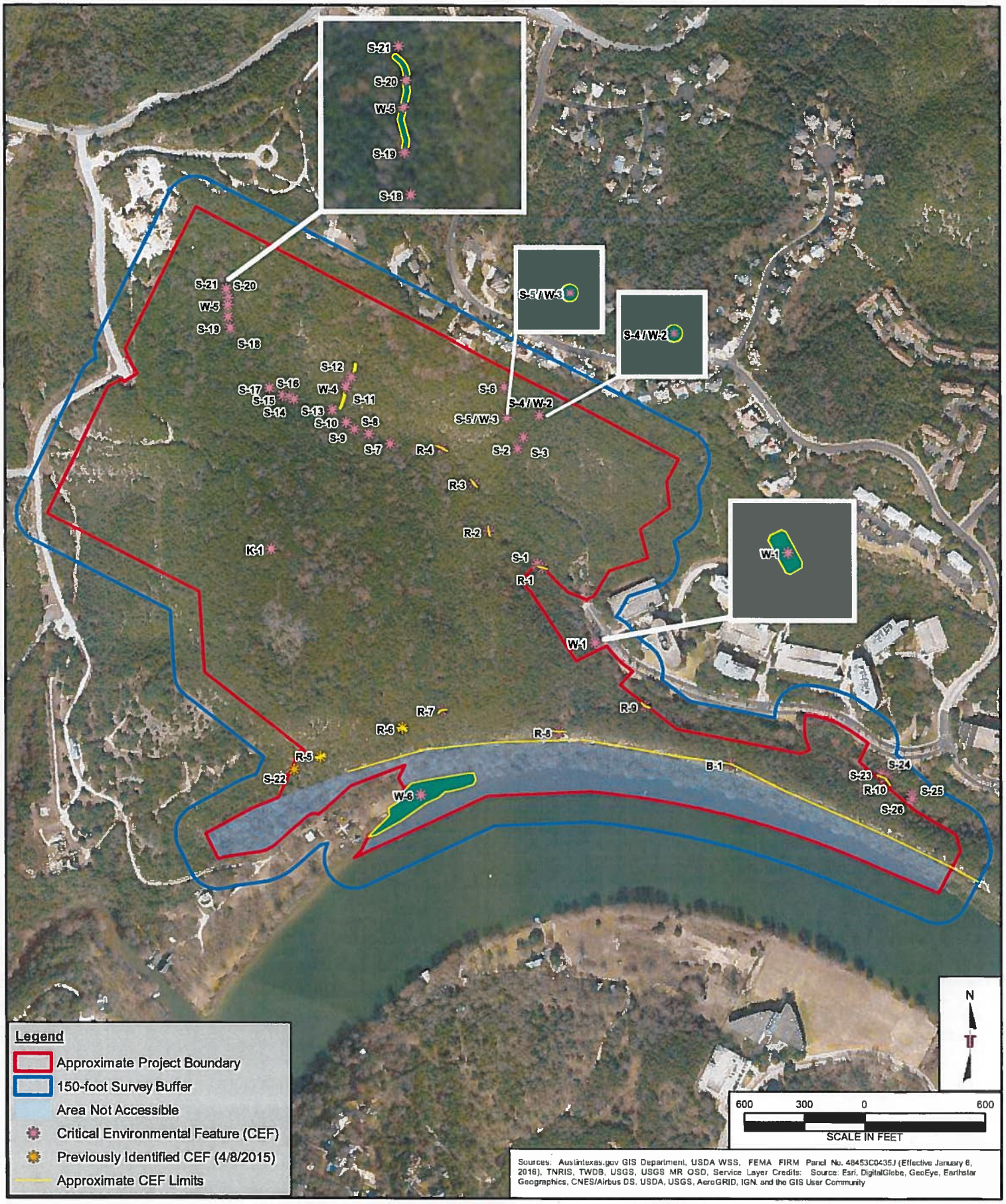
Site Specific 2-ft Topography Map

Camelback Tract

Bridgepoint Parkway and Coldwater Canyon Parkway
Austin, Travis County, Texas

EXHIBIT
1.2



Sources: Austintexas.gov GIS Department, USDA WSS, FEMA FIRM Panel No. 48453C0435J (Effective January 6, 2016), TNRIS, TWDB, USGS, USGS MR OSD, Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Project Mngr:	MR
Drawn By:	Terracon
Checked By:	CG
Approved By:	AS

Project No.	96187142
Scale:	AS SHOWN
File No.:	96187142
Date:	Jul 2, 2018

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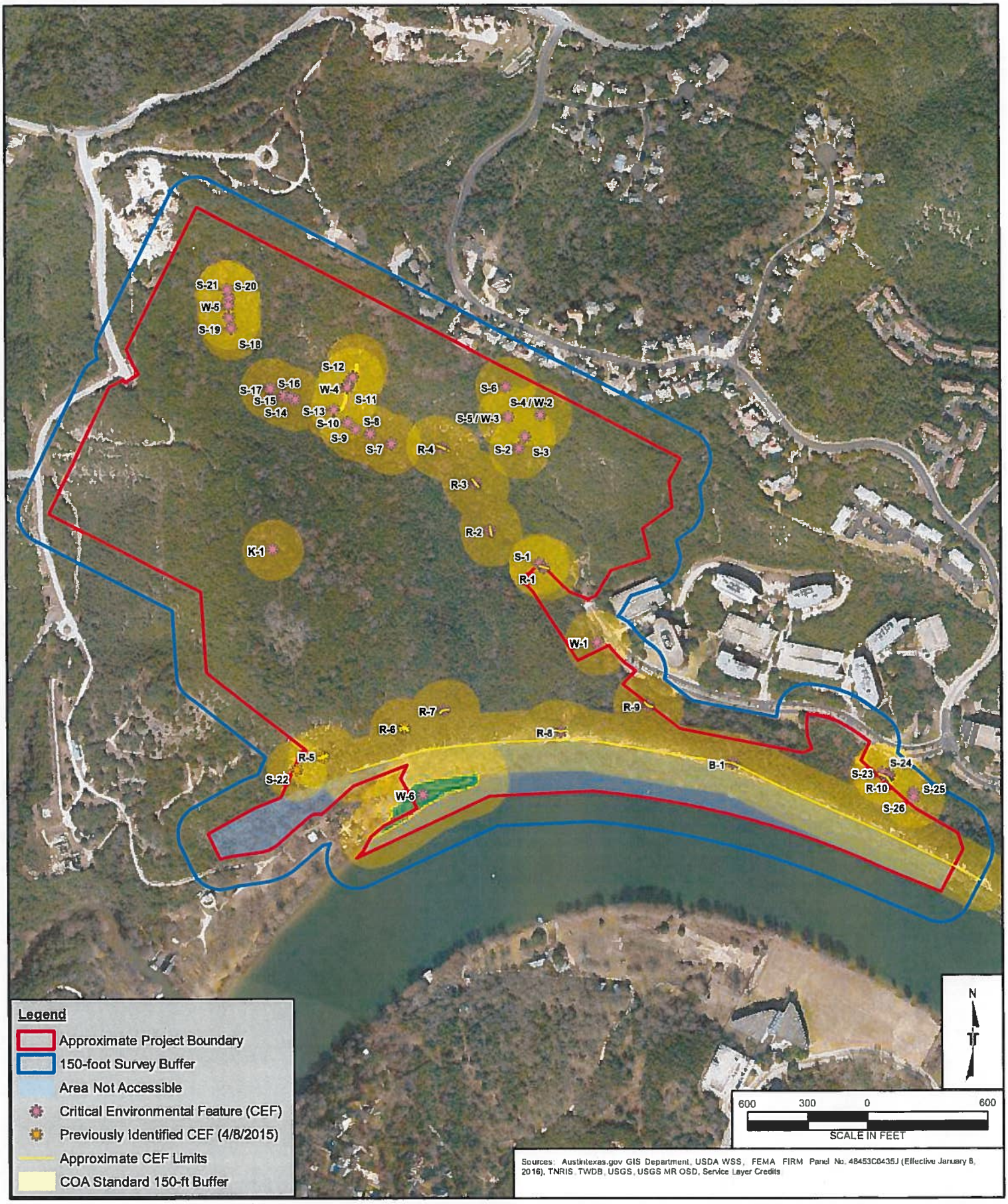
Site 2015 Historical Aerial Photo and CEFs

Camelback Tract

Bridgepoint Parkway and Coldwater Canyon Parkway
Austin, Travis County, Texas

EXHIBIT 2.0



Project Mngr:	MR
Drawn By:	Terracon
Checked By:	CG
Approved By:	AS

Project No.:	96187142
Scale:	AS SHOWN
File No.:	96187142
Date:	Jul 3, 2018

Terracon
Consulting Engineers & Scientists
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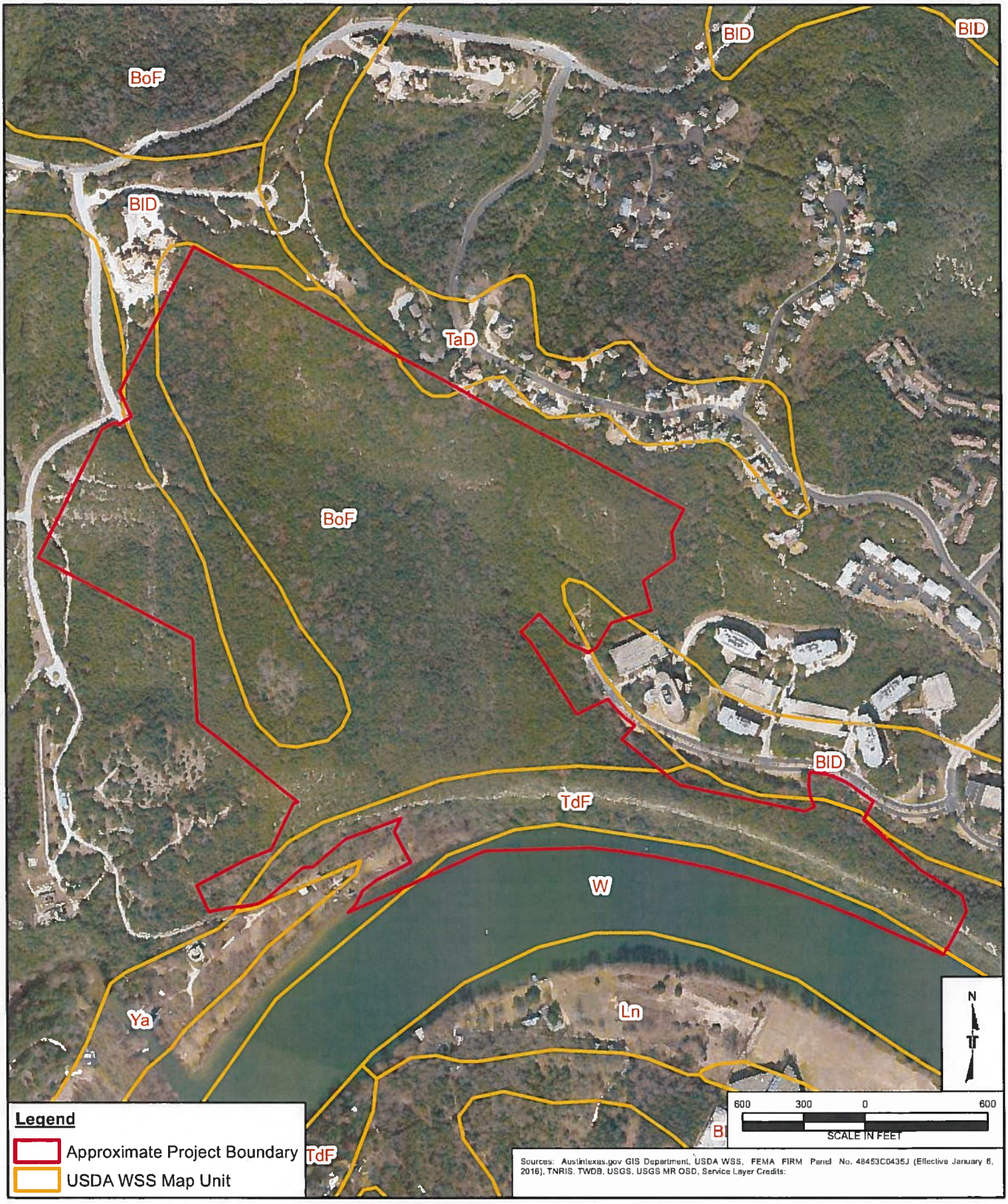
City of Austin Standard Setback Buffers

Camelback Tract

Bridgepoint Parkway and Coldwater Canyon Parkway
Austin, Travis County, Texas

EXHIBIT
2.1



Sources: Austintexas.gov GIS Department, USDA WSS, FEMA FIRM Panel No. 48453C0435J (Effective January 6, 2016), TNRIS, TWDB, USGS, USGS MR OSD, Service Layer Credits:

Project Mngr:	MR
Drawn By:	Terracon
Checked By:	CG
Approved By:	AS

Project No.:	96187142
Scale:	AS SHOWN
File No.:	96187142
Date:	Apr 23, 2018

Terracon
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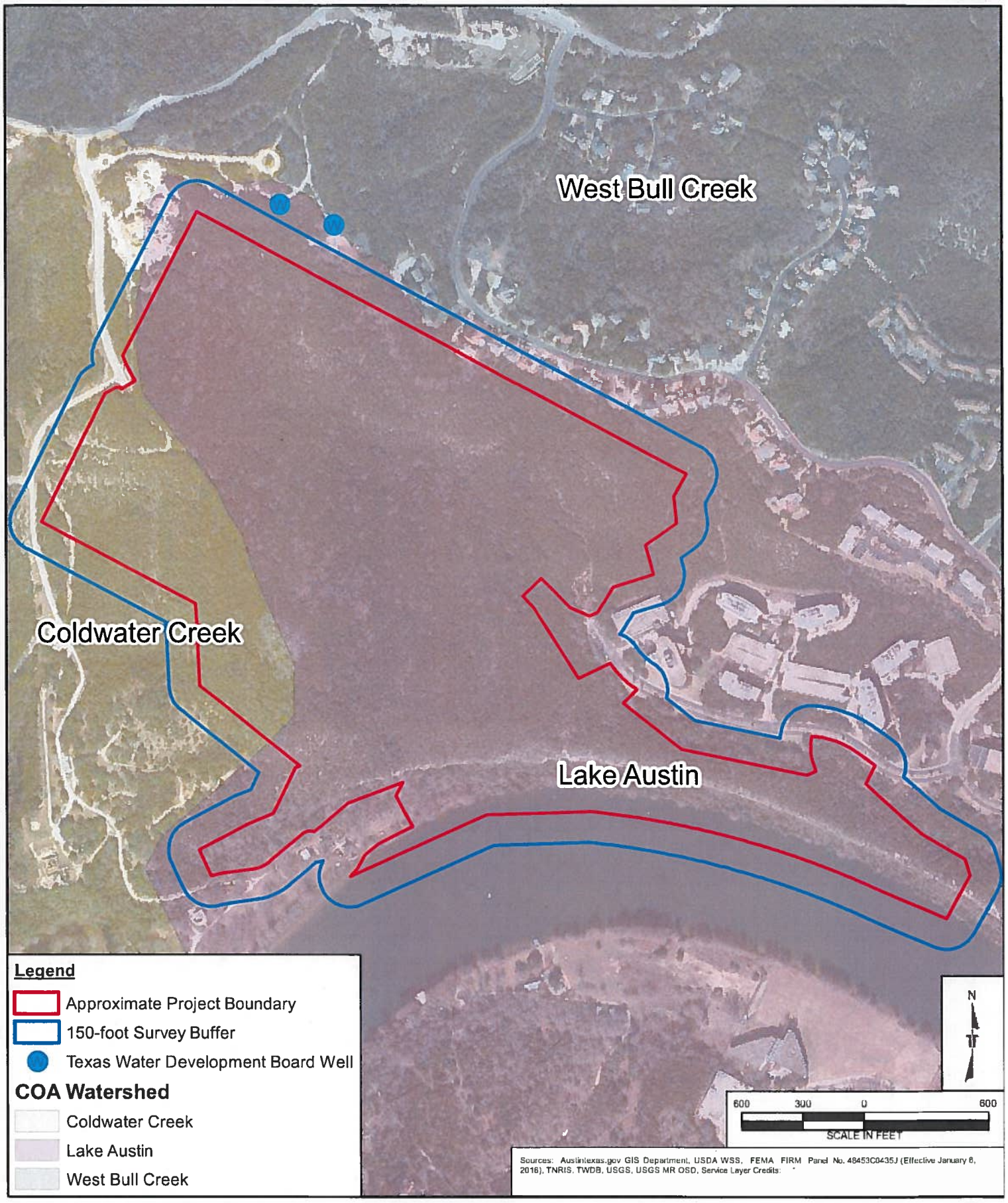
USDA Site Soil Map

Camelback Tract

Bridgepoint Parkway and Coldwater Canyon Parkway
Austin, Travis County, Texas

EXHIBIT 3



Project Mngr.	MR
Drawn By:	Terracon
Checked By:	CG
Approved By:	AS

Project No.	96187142
Scale:	AS SHOWN
File No.:	96187142
Date:	Jun 15, 2018

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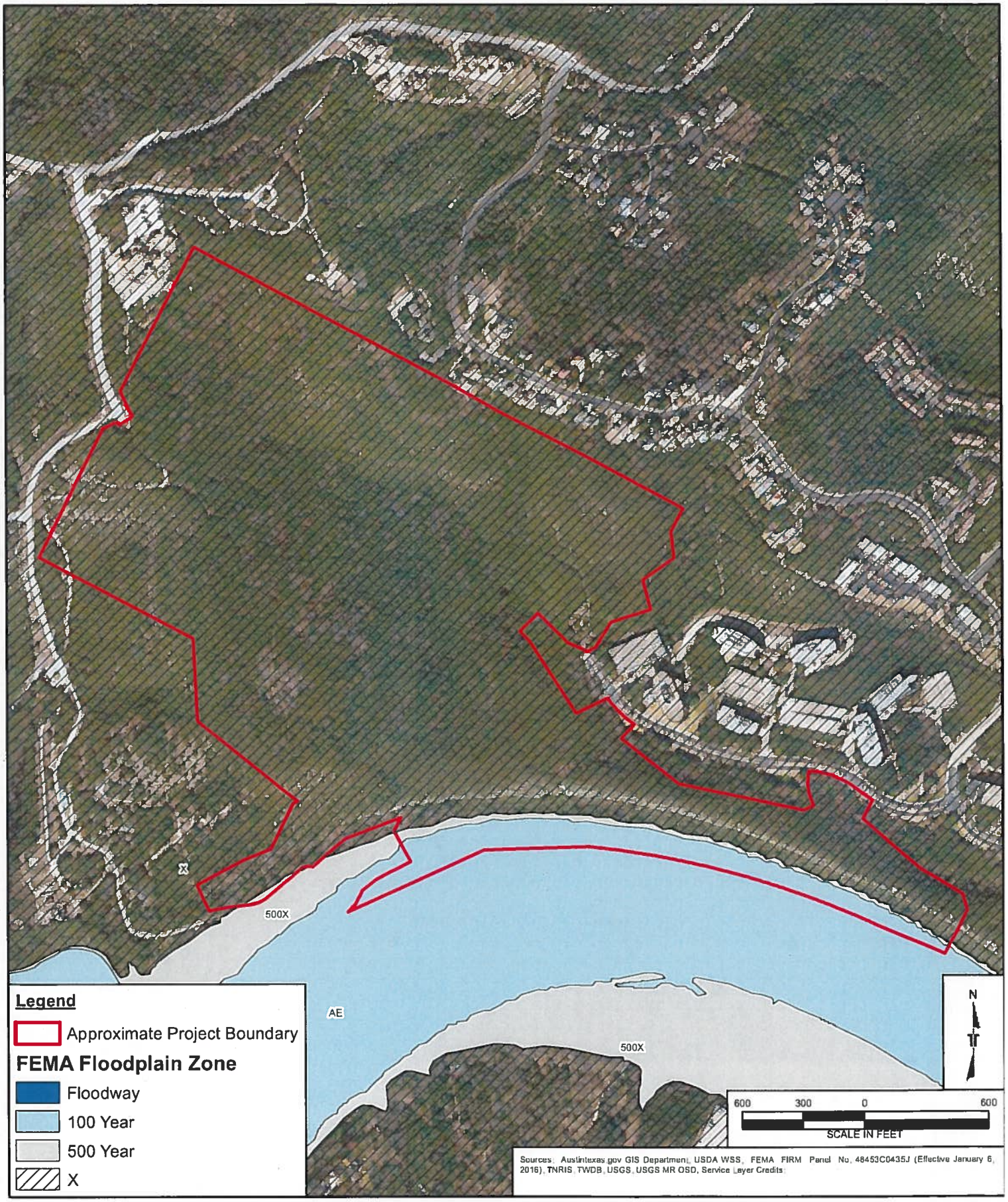
Watersheds and Wells

Camelback Tract
Bridgepoint Parkway and Coldwater Canyon Parkway
Austin, Travis County, Texas

EXHIBIT

4



Project Mngr:	MR
Drawn By:	Terracon
Checked By:	CG
Approved By:	AS

Project No.:	96187142
Scale:	AS SHOWN
File No.:	96187142
Date:	Apr 23, 2018

Terracon
Consulting Engineers & Scientists
5307 INDUSTRIAL OAKS BLVD. - #160 AUSTIN, TX 78735
PH. (512) 442-1122 FAX. (512) 442-1181

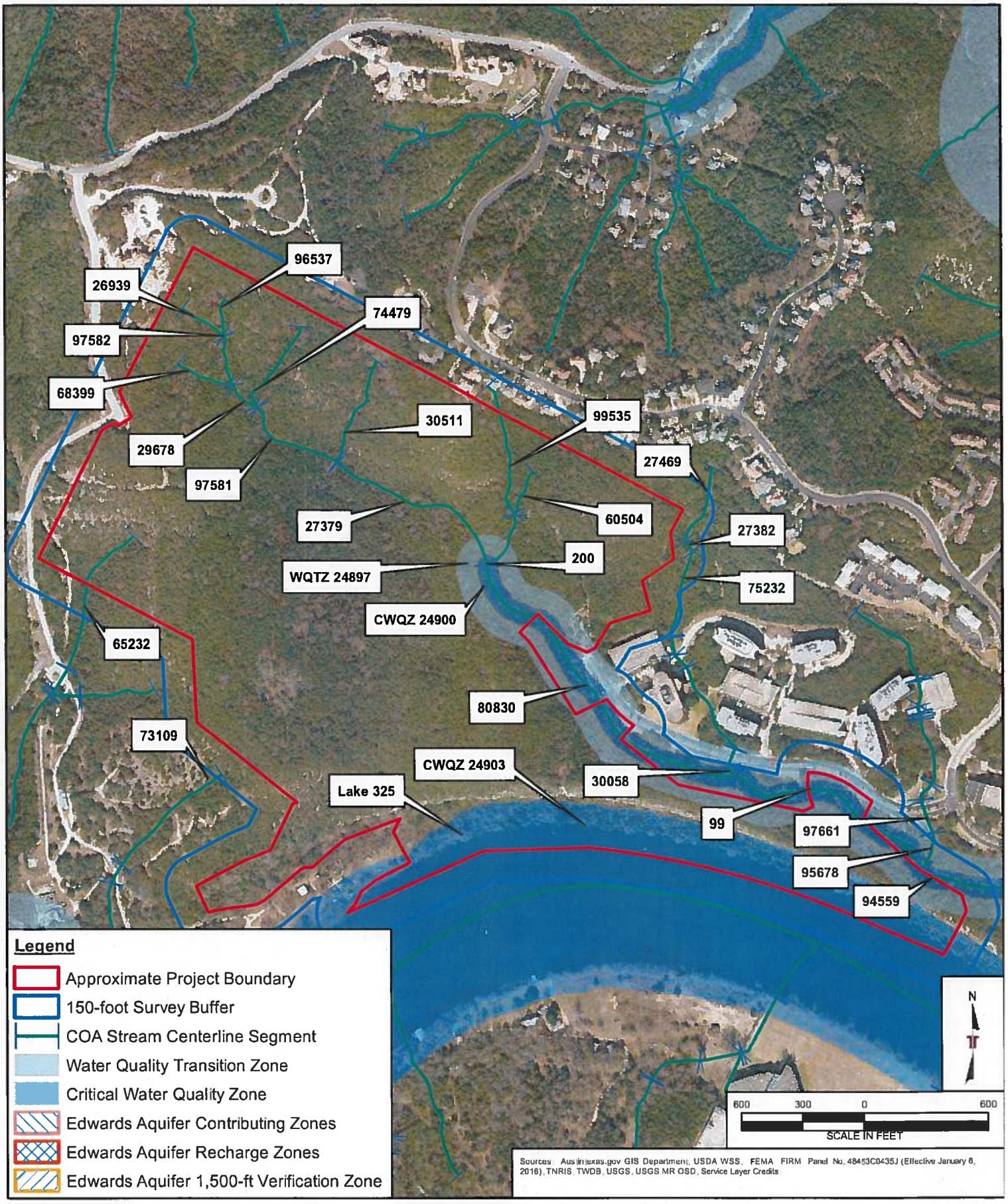
FEMA Floodplain Map

Camelback Tract

Bridgepoint Parkway and Coldwater Canyon Parkway
Austin, Travis County, Texas

EXHIBIT

5



Project Mngr:	MR
Drawn By:	Terracon
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Project No.:	96187142
Scale:	AS SHOWN
File No.:	96187142
Date:	Jun 15, 2018

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Consulting Engineers & Scientists
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Water Quality Zones

Camelback Tract

Bridgepoint Parkway and Coldwater Canyon Parkway
Austin, Travis County, Texas

EXHIBIT

6

APPENDIX C
SITE PHOTOGRAPHS

Photo 1 View of the northwest portion of the site.

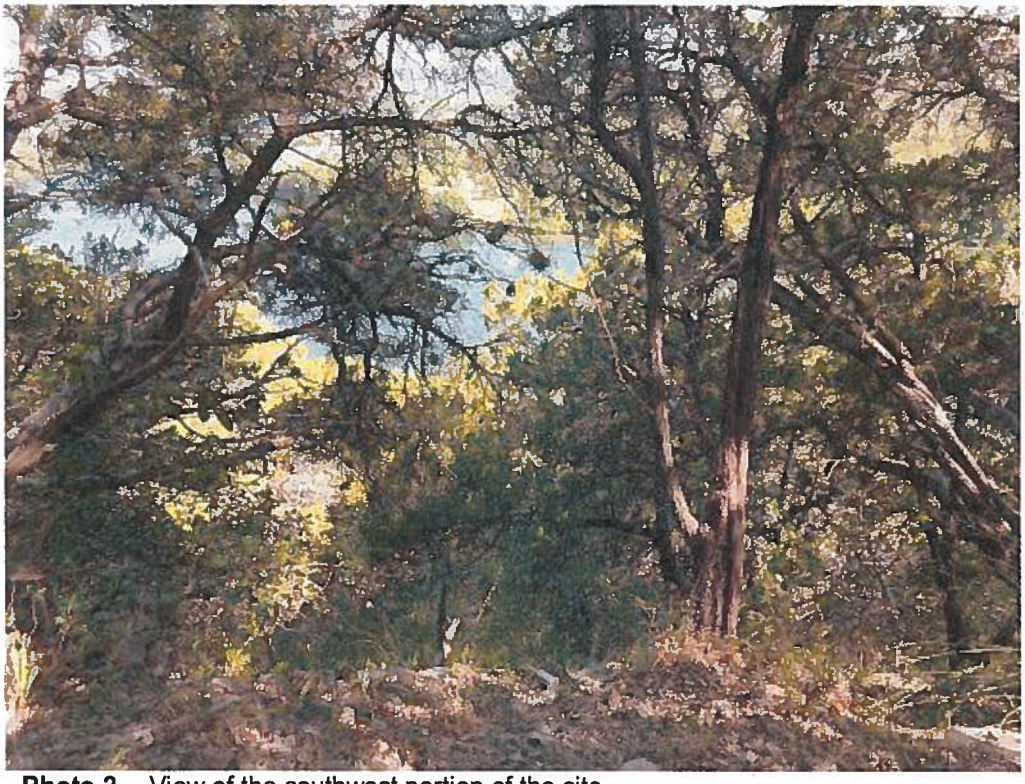

Photo 2 View of the southwest portion of the site.

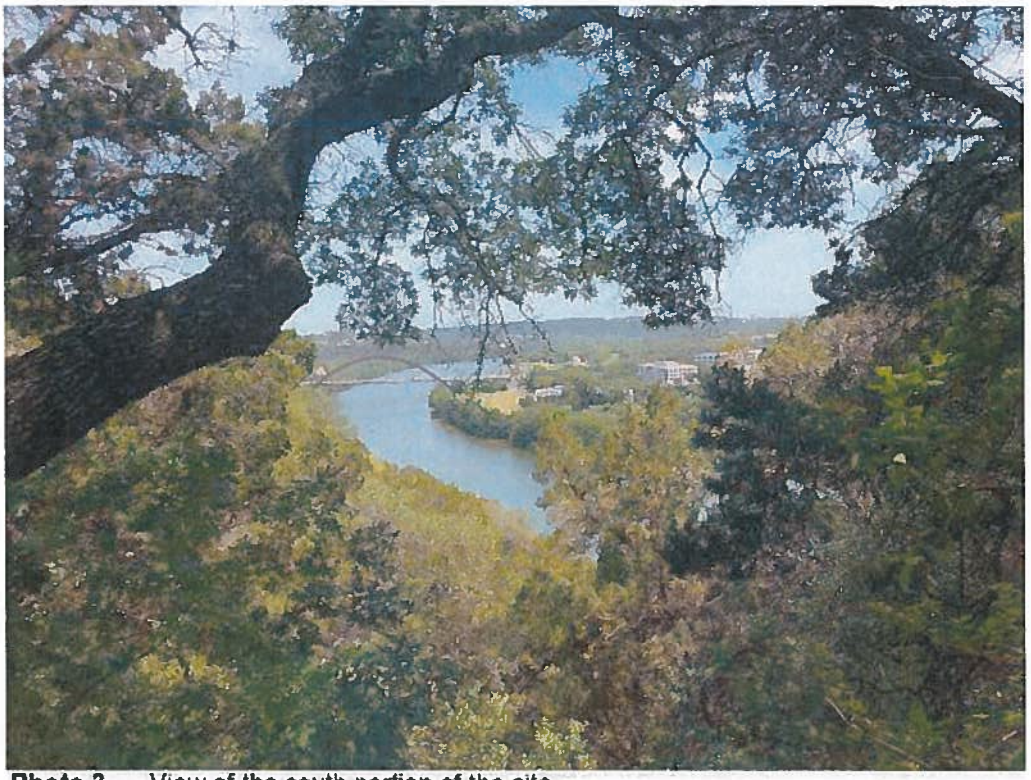

Photo 3 View of the south portion of the site.

Photo 4 View of the southeast portion of the site.

Photo 5 View of S-1 (CEF).

Photo 6 View of S-2 (CEF).

Photo 7 View of S-3 (CEF).

Photo 8 View of S-4 (CEF).

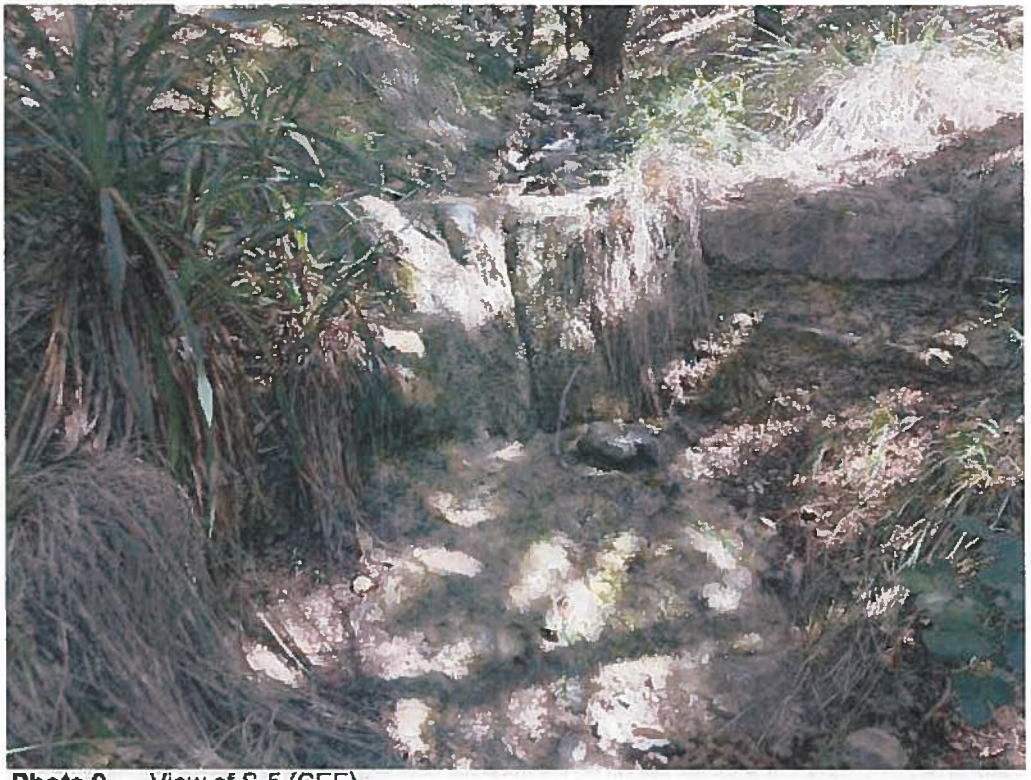

Photo 9 View of S-5 (CEF).

Photo 10 View of S-6 (CEF).

Photo 11 View of S-7 (CEF).

Photo 12 View of S-8 (CEF).

Photo 13 View of S-9 (CEF).

Photo 14 View of S-10 (CEF).

Photo 15 View of S-11 (CEF).

Photo 16 View of S-12 (CEF).

Photo 17 View of S-13 (CEF).

Photo 18 View of S-14 (CEF).

Photo 19 View of S-15 (CEF).

Photo 20 View of S-16 (CEF).

Photo 21 View of S-17 (CEF).

Photo 22 View of S-18 (CEF).

Photo 23 View of S-19 (CEF).

Photo 24 View of S-20 (CEF).

Photo 25 View of S-21 (CEF).

Photo 26 View of S-22 (previously identified CEF and photo taken on April 8, 2015).

Photo 27 View of S-23 (CEF).

Photo 28 View of S-24 (CEF).

Photo 29 View of S-25 (CEF).

Photo 30 View of S-26 (CEF).

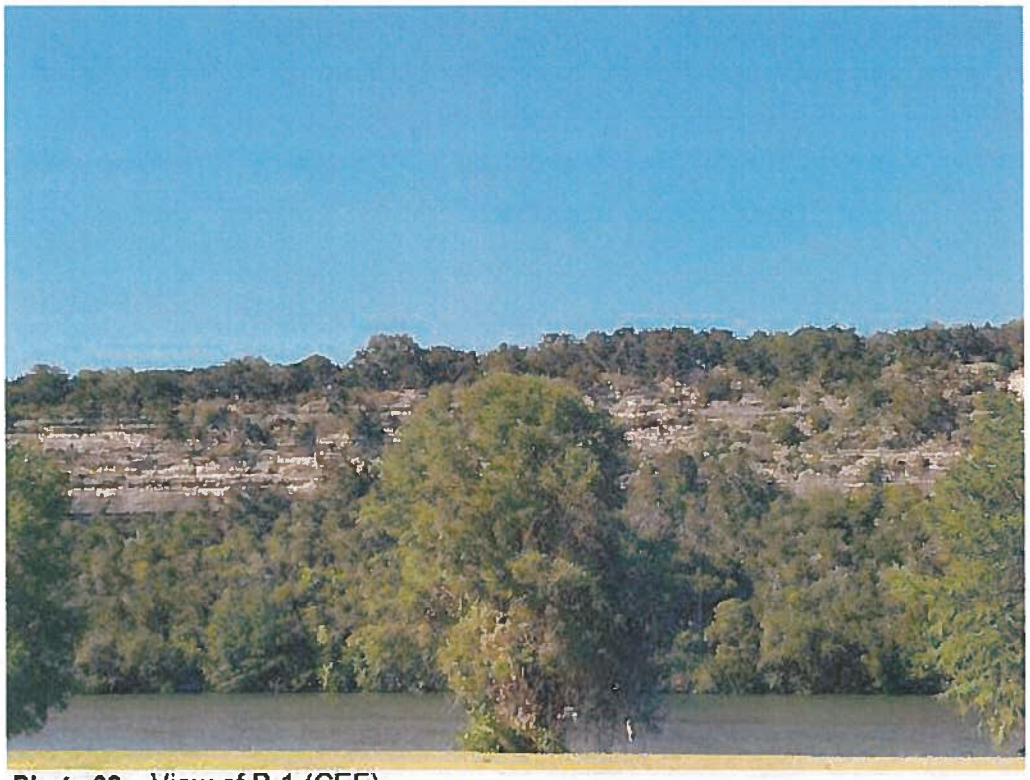

Photo 32 View of B-1 (CEF).

Photo 33 View of K-1.

Photo 45 View of K-1 after hand excavation on June 6, 2018.

Photo 46 View of R-1 (CEF).

Photo 47 View of R-2 (CEF).

Photo 48 View of R-3 (CEF).

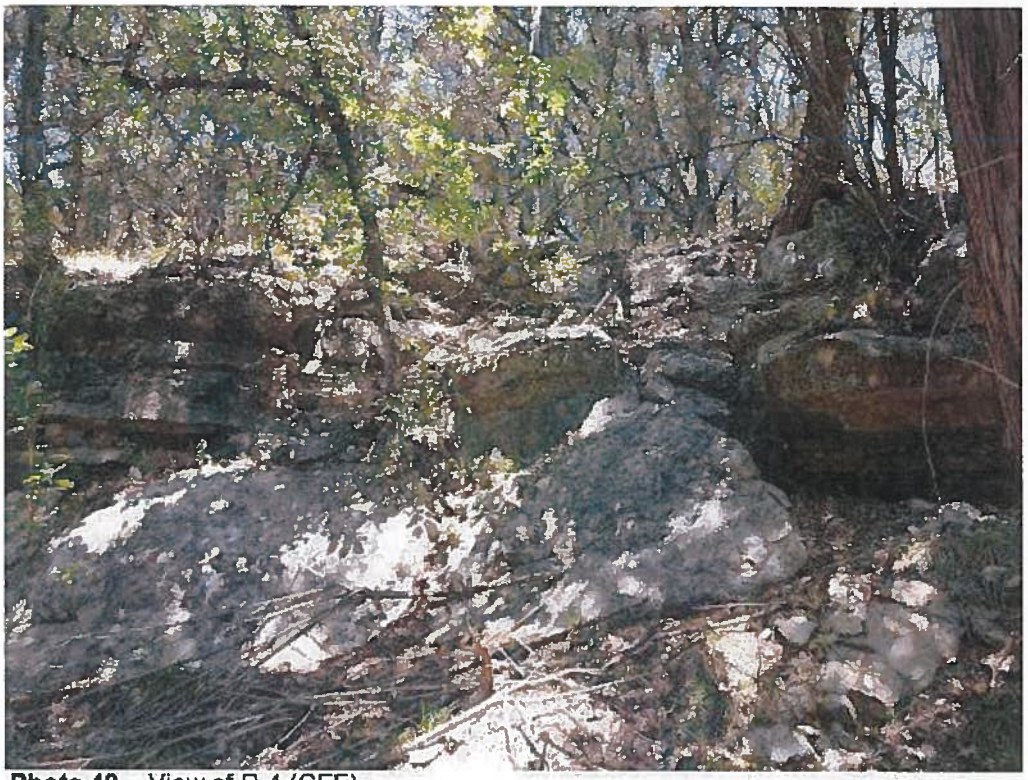

Photo 49 View of R-4 (CEF).

Photo 50 View of R-5 (previously identified CEF and photo taken on April 8, 2015).

Photo 51 View of R-6 (previously identified CEF and photo taken on April 8, 2015).

Photo 52 View of R-7 (CEF).

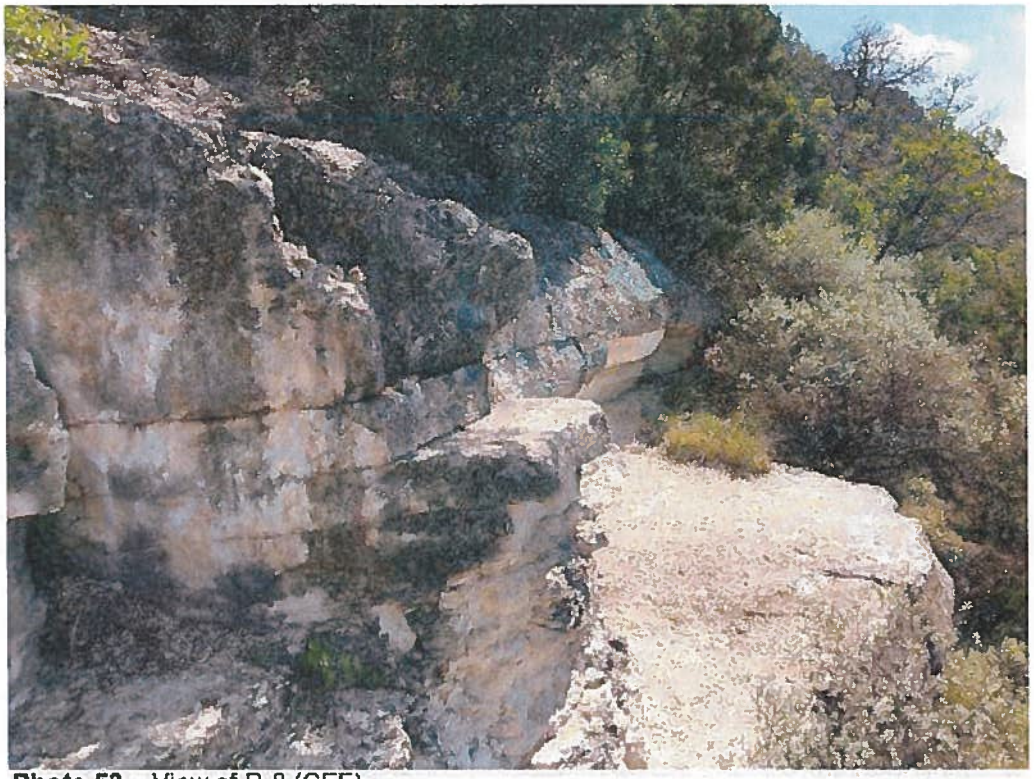

Photo 53 View of R-8 (CEF).

Photo 54 View of R-9 (CEF).

Photo 55 View of R-10 (CEF).

Photo 56 View of W-1 (CEF).

Photo 57 View of W-2 (CEF)

Photo 58 View of W-3 (CEF).

Photo 59 View of W-4 (CEF).

Photo 60 View of W-5 (CEF).

Photo 62 View of W-6 (CEF).

Photo 63 View of W-6 (CEF).

APPENDIX D
CREDENTIALS

MIRANDA F. REINHARD
PROJECT ENVIRONMENTAL SCIENTIST

PROFESSIONAL EXPERIENCE
Ms. Reinhard has experience performing Phase I Environmental Site Assessments (ESA), City of Austin Environmental Resource Inventories (ERI), City of Austin Habitat Assessments (HA), soil and water sampling, and performing laboratory experiments and research. She has worked for the Soil Characterization Laboratory, Office of Sustainability, and Department of Sociology at Texas A&M University. Ms. Reinhard is knowledgeable with a wide range of Federal and State environmental rules and regulations.

PROJECT EXPERIENCE

Querencia Senior Living Center-Austin, Texas
Conducted an ESA for three contiguous tracts of land totaling approximately 38.04 acres, improved with a senior living center consisting of four-to-six-story main residential buildings (Plaza Building for Assisted Living (AL) and Independent Living (IL) Buildings #1-3), ten one-story residential buildings (villas), paved access drives, paved parking lots, parking garage on the first floor of IL Building #3, and walking trails, operating as the Querencia At Barton Creek and located at 2500 Barton Creek Boulevard. The purpose for the ESA was to identify recognized environmental conditions for the client who was refinancing the site and requested due diligence. Terracon's client was Barton Creek Senior Living Center, Inc. c/or SQLC.
Professional Services Conducted: Environmental Site Assessment
Services Completed: 2015

Crossroads Park Wastewater Line-Temple, Texas
Conducted an ESA for a proposed wastewater line which will extend approximately 1,875 feet from south of Prairie View Road, and crossing Stonehollow Drive and Research Parkway (aka Hilliard Road) to approximately 700 feet north of West Adams Avenue (aka FM 2305). The purpose for the ESA was to identify recognized environmental conditions for the client who requested due diligence for the development of a wastewater line. Terracon's client was Kasberg Patrick and Associates LP.
Professional Services Conducted: Environmental Site Assessment
Services Completed: 2016

#42-1658 Burnet Chevron-Burnet, Texas
Conducted an ESA for an approximate 0.992 acre tract of land improved with an approximate 5,000 square foot, one-story retail store with outdoor playground and fueling center, occupied by a 7-Eleven/Chevron convenience store and McDonald's restaurant and located at 200 N. Water Street. The purpose for the ESA was to identify recognized environmental conditions for the client who was the owner of the site and requested due diligence for reconstruction of McDonald's restaurant and closure of the 7-Eleven/Chevron convenience store. Terracon's client was McDonald's USA, LLC.
Professional Services Conducted: Environmental Site Assessment
Services Completed: 2016

Education
Bachelor of Science, Double Major: Bioenvironmental Sciences & Plant and Environmental Soil Science, Minor: Sociology, Texas A&M University, 2014

Affiliations
National Association of Environmental Professionals

Phi Kappa Phi Honor Society

Gamma Sigma Delta Honor Society

Phi Eta Sigma National Honor Society

Commercial Real Estate Women

Work History
Terracon Consultants, Inc., Project Environmental Scientist, 2014 - Present

Texas A&M University Soil Characterization Laboratory; Student Worker; 2013 - 2014

Texas A&M University Office of Sustainability; Social Justice Outreach Specialist Intern; January 2013 – August 2013

Texas A&M University Department of Sociology; Research Assistant; August 2011 - December 2012

Terracon

Lakewood on the Park – Buildings B & C-Austin, Texas

Conducted an ESA for a 102,056 square foot, three-story office building (Lakewood on the Park-Building B); a 78,502 square foot, three-story office building (Lakewood on the Park-Building C); a three level parking garage; and associated paved parking lots constructed in 1998. The site was a part of a larger parent tract (approximately 11.3 acres) which included a 15,856 square foot, two-story office building (Lakewood on the Park-Building A) and an associated paved parking lot located at 7600 Capital of Texas Highway. The purpose for the ESA was to identify recognized environmental conditions for the client who was refinancing the site and requested due diligence. Terracon's client was CPVF II Lakewood LP c/o CapRidge Partners, LLC.
Professional Services Conducted: Environmental Site Assessment
Services Completed: 2016

Brentwood – Multifamily Properties-Austin, Texas

Conducted an ESA for two noncontiguous multifamily property tracts (Tract 1 and Tract 2) totaling approximately 1.14 acres. Tract 1 was an approximate 0.50 acre tract which was improved in 1971 with a two-story apartment building called Brentwood Terrace Apartments and a paved parking lot, located at 5306 Woodrow Avenue. Tract 2 was an approximate 0.64 acre tract which was improved in 1971 with three, two story apartment buildings called Woodland House Apartments and paved parking lot, located at 5623 Woodrow Avenue. The purpose for the ESA was to identify recognized environmental conditions for the client who was refinancing Tract 1 of the site and purchasing Tract 2 of the site and requested due diligence. Terracon's client was Joseph Companies.
Professional Services Conducted: Environmental Site Assessment
Services Completed: 2016

Granada Hills Tract-Austin, Texas

Conducted an ESA, ERI, and HA for an approximate 46.327 acre tract, improved with unimproved road traversing the central portion of the site; multiple deer hunting stands, a cattle corral, and a dilapidated vacant, rural structure, located on the south side of Highway 290 West. The purpose for the ESA was to identify recognized environmental conditions for the client who was purchasing the site. The purpose for the ERI was to oversee and conduct a site assessment to identify the presence of critical environmental features (CEFs) (seeps, springs, wetlands, canyon rimrock, bluffs, karst features). The purpose for the HA was to evaluate the presence or absence of potential endangered species habitat on site or on the immediately adjacent tracts. Terracon's client was CIP Construction.
Professional Services Conducted: Environmental Site Assessment, City of Austin Environmental Resource Inventory, City of Austin Habitat Assessment
Services Completed: 2015

Parking Spot Tracts-Austin, Texas

Conducted an ERI for an approximate 30 acre tract, improved with several concrete slabs, a two-story abandoned building and concrete and trash piles, located at 2883, 2885 and 2935 East Highway 71. The purpose for the ERI was to oversee and conduct a site assessment to identify the presence of critical environmental features (CEFs) (seeps, springs, wetlands, canyon rimrock, bluffs, karst features). Terracon's client was Halff Associates, Inc.
Professional Services Conducted: City of Austin Environmental Resource Inventory
Services Completed: 2015

Wolf Ranch West-Section 1B-Georgetown, Texas

Conducted an ESA and HA for an approximate 19.440 acre tract of mostly vacant, undeveloped land, improved with an unimproved road, a temporary mobile home, a water tank, and a septic system, located south of the intersection of W. University Avenue (Highway 29) and Wolf Ranch Parkway. The purpose for the ESA was to identify recognized environmental conditions for the client who was purchasing the site. The purpose for the HA was to evaluate the presence or absence of potential endangered species habitat on site or on the immediately adjacent tracts. Terracon's client was McCann Realty Partners.
Professional Services Conducted: Environmental Site Assessment, City of Austin Habitat Assessment
Services Completed: 2016

RUSS FORD, P.G., CAPM

SENIOR ENVIRONMENTAL MANAGER / HYDROGEOLOGIST

PROFESSIONAL EXPERIENCE

Mr. Ford is a senior hydrogeologist in Terracon's Austin office. He has more than 30 years of experience as a hydrogeologist specializing in the assessment and remediation of deep and shallow groundwater contamination. He has managed several hydrogeologic characterizations and contamination assessments. These have included monitor well siting and installation, groundwater and soil sampling, data analysis of constant rate aquifer tests, development of groundwater databases, statistical analysis of groundwater data, computer modeling of site groundwater conditions using analytical and numerical models, well head protection studies, design of comprehensive remedial systems, as well as preparation of assessment reports and remedial action plans.

He is experienced with state and federal environmental regulations, including RCRA and CERCLA. Mr. Ford's duties have included management of staff geologists and hydrogeologists, client and business development activities as well as development of a groundwater modeling group.

PROJECT EXPERIENCE

City of Austin Environmental Rotation Contract – Austin, TX

Managed the City of Austin environmental contract which included a variety of services provided on an as-needed basis. Projects have included a landfill permit modification, corrective action, and a variety of environmental site investigations.

Remedial Design and VCP Assistance – Central Texas

Performed site assessment and remedial design for an abandoned municipal incinerator ash disposal area in central Texas. Tasks included delineation of ash waste areas and associated contaminated soil, risk assessment, feasibility study, remediation design and site closure report preparation. Site remediation and final closure were completed under the TNRCC Voluntary Cleanup Program.

Subsurface Investigation and IOP Application – Austin, Texas

Performed Phase II subsurface site investigation on three blocks in downtown Austin to prepare for Innocent Owner applications associated with the coal tar contamination from the 100 Congress site (former Austin Power & Light site). Work consisted of completion of Phase II site investigation and preparation of IOP applications.

Geologic Assessment/Environmental Assessment – Lakeline Tract

Performed a geologic assessment and environmental assessment for a 30 acre site near Lakeline Mall in Austin, TX.

TxDOT Statewide Environmental Contract

Managed dozens of environmental projects involving hazardous materials site investigations, site assessments, corrective action, underground storage tanks, remediation system design and oversight.

EDUCATION

Bachelor of Science, Geology/ Hydrogeology, 1984, Northern Arizona University

CERTIFICATIONS

State of Texas, Professional Geologist #1185

Certified Professional Geologist, American Institute of Professional Geologists, #9475

TCEQ Corrective Action Project Manager (CAPM #1502)

AFFILIATIONS

National Groundwater Association

Texas Groundwater Association

American Institute of Professional Geologists

WORK HISTORY

Terracon, Senior Environmental Manager/ Hydrogeologist, 1997-present

EMCON Inc., Senior Hydrogeologist, 1994-1996

Southwestern Laboratories, Program Manager of Hydrogeological Services, 1990-1994

Applied Earth Sciences, Project Hydrogeologist/Office Manager, 1985-1990

PUBLICATIONS

Municipal Solid Waste Groundwater Protection Cost Study; Texas Water Commission Report # LP92-24; 1992

Terracon

Hydrogeologic Site Characterization – North Central Texas
Served as project hydrogeologist for a hydrogeologic site characterization at a municipal solid waste landfill in north central Texas. Tasks included identification of various hydrogeologic units, stratigraphic correlations, hydrogeologic interpretation and preparation of a site hydrogeologic model, and design of a groundwater monitor well network.

Hutto ISD - Limited Site Investigation - 100 Acres
Conducted a Limited Site Investigation on a 100-Acre tract to evaluate the potential for elevated arsenic concentrations in surface soils within areas of the site utilized for crop production.

AISD Proposed Elementary School #2 – Geologic Assessment
Performed a Geologic Assessment of a 14-Acre Site proposed for a new Elementary School.

Dripping Springs High School Conversion – Geologic Assessment
Performed a Geologic Assessment on four tracts totaling approximately 100 acres.

Town Lake Plaza Site Closure – Austin, Texas
Project Manager for dry cleaner assessment and regulatory closure project. Delineated PCE groundwater plume extending offsite. Achieved regulatory closure through State Voluntary Cleanup Program utilizing a plume management zone approach coupled with monitored natural attenuation. Successful closure achieved which allowed for redevelopment of shopping center and adjacent low income apartments with multi-family/retail center.

Jollyville Tunnel Piezometers – Austin, Texas
Project Manager for installation of deep groundwater piezometers in support of large municipal water tunnel supply project. Project included installation of 15 deep (greater than 250 feet deep) piezometers into the environmentally sensitive Edwards Aquifer. Also included detailed core logging and packer testing for determination of borehole hydraulic conductivity. Work was conducted under accelerated time schedule and coordinated with neighborhood advocacy groups opposed to the tunnel project.

620 Mall Dry Cleaner Assessment and Remediation – Lakeway, Texas
Project Manager for dry cleaner assessment and remediation project. Project included offsite delineation of PCE contaminant plume within a karst aquifer system. Remediation included in-situ chemical oxidation followed by injection of HRC for enhanced bioremediation. Regulatory closure achieved utilizing a plume management zone coupled with monitored natural attenuation.

East Austin Railroad Tracts Assessment and Remediation – Austin, Texas
Project Manager for assessment and remediation of 3 separate tracts of property formerly utilized by Union Pacific Railroad as maintenance yards. Work included assessment of the tracts and preparation of remedial action plans. Site remediation included the excavation and disposal of approximately 50,000 cubic yards of petroleum hydrocarbon impacted soil. Regulatory closure achieved through State Voluntary Cleanup program which allowed for redevelopment of the sites with multi-family and retail facilities.

Champions Shooting Range Assessment and Remediation – Austin, Texas
Project Manager for assessment and remediation of historic unpermitted shooting range. Work included assessment of approximately 25-acres of both skeet and rifle range areas. Remediation utilized stabilization of lead impacted soils to below hazardous waste levels with offsite disposal as non-hazardous waste. Total of approximately 5,000 cubic yards of material was eventually stabilized and hauled offsite. Downrange remediation included surficial removal of visible lead shot from steep, rocky cliff and spring fed streambed using truck mounted vacuum units. Regulatory closure achieved through State Voluntary Cleanup program which allowed for redevelopment of the site with multi-family and retail facilities.

Geologic Assessment / Environmental Assessment; Amber Oaks Office Development – Austin, TX
Performed a geologic assessment and environmental assessment for a new building development in Williamson County.

Ann M. Scott, PhD, RPA

NATURAL | CULTURAL RESOURCES GROUP MANAGER

EDUCATION

Doctor of Philosophy, Latin American Studies, The University of Texas at Austin, 2009

Master of Arts, Anthropology, Northern Illinois University, 1993

Bachelor of Science, Anthropology, Central Michigan University, 1988 (honors)

Archaeological Field School, University of Pittsburgh, 1986

REGISTRATIONS

Register of Professional Archeologists, #16573

CERTIFICATIONS

TXDOT Precertified
CPR and First Aid 11-2017

AFFILIATIONS

Central Texas Association of Enivornmental Professionals

Society for American Archaeology

Council of Texas Archeologists

Texas Archeological Society

Colorado Council of Professional Archaeologists

American Cultural Resources Association (Board member: 2010-2015)

National Speleological Society

PUBLICATIONS/PRESENTATIONS

Co-editor of book entitled *The National Historic Preservation Act, Past, Present, and Future* with co-editor Kimball Banks, Routledge Press, 2016

Preliminary Findings from the Mercado Site, 41TR203: An Archaic Period Site Along the West Fork Trinity River, Tarrant County, Texas. Presentation at the 85th Annual Meetings of the Texas Archeological Society, San Marcos, Texas, October 24-26, 2014. Co-author with Julie Shipp and Chalres Frederick

CLIENT TESTIMONIAL

Working with Ann is always delightful- her attention to detail and timing, coupled with her effective team communication skills, results in the avoidance of project scheduling and budget issues that typically creep into large, multi-faceted projects

--Laurie Hawkins, President, J&L Consulting, Texas

PROFESSIONAL EXPERIENCE

Dr. Scott has over 25 years of archaeological and environmental compliance experience. She has professional experience with the National Park Service, the States of Wisconsin and Illinois, and private consulting firms in the Midwest and Texas. Her experience has involved all levels of archaeological investigation including Phase I surveys, Phase II testing, and Phase III data recovery at both prehistoric and historic-period sites. The work has been performed in compliance Section 106 of the National Historic Preservation Act (NHPA), the National Environmental Policy Act (NEPA), and Texas Department of Transportation (TxDOT) NEPA assignment standards as well as various state antiquities requirements. Dr. Scott exceeds all qualifications for the *Secretary of the Interior's Standards and Guidelines* for Prehistoric and Historic Archaeology under 36 CFR 61. Additionally, she has held permits as a Principal Investigator for the Bureau of Land Management for the Texas Gulf Coast and Great Plains and the US Forest Service for National Forests and Grasslands in Texas.

In addition, Dr. Scott serves as Project Manager or Reviewer on several multi-disciplinary projects (Categorical Exclusions, Environmental Assessments, Environmental Resources Inventories) involving work with wetlands and waters, endangered species and habitats, karst surveys, Phase I Environmental Site Assessments, and cultural resources including historic resources surveys. Dr. Scott operates in the Terracon quality control program as an Authroized Project Reviewer offer guidance and project oversight throught a project's lifetime. Finally, Dr. Scott has international and domestic experience in conducting archaeological investigations in caves.

SELECT PROJECT EXPERIENCE

Prairie View Road – City of Temple, Bell County, TX
Serving as Project Manager, Dr. Scott oversaw the completion of the TxDOT NEPA Categorical Exclusion checklist. Because the road realignment included new right of way, an archeological survey was required by TxDOT. In addition to the cultural resources, a Noise Assessment, Waters and Wetland Assessment, and Biological Assessment were performed along the alignment. The project was approved by the Waco District of TxDOT.

Bunton Creek Interceptor – City of Kyle, Hays County, Texas
The proposed 7,000-linear-foot sewer line project was receiving funding with federal monies and required Section 106 compliance. One historic archeological site was recorded and, after archival and deed research, was assessed as ineligible for inclusion on the National Register of Historic Places (NRHP). The report was coordinated with the Texas State Historic Preservation Office (SHPO) (THC). The SHPO/THC agreed with our findings of no historic properties affected and the project was approved for construction. Dr. Scott served as Project Manager and Principal Investigator.

Texas Water Development Board Projects, City of Cameron Wastwater Treatment Plant – Cameron Texas, Hillside Terrace Wastewater Line – City of Buda, Texas*, Brazosport Water Authority Treatment Plant Improvements – Lake Jackson, Texas*
Serving as Project Manager, Dr. Scott oversaw the completion of the Environmental Information Document (EID), which is a combination of compliance for state and federal laws (NEPA). All aspects of the project were managed by Dr. Scott including multi-disciplinary field investigations, document quality control, agency coordination, assistance in public meetings, and delivery of final documentation. Both Buda and Lake Jackson projects received Finding of No Significant Impact (FONSI) and were approved. The City of Cameron project is on-going with Dr. Scott serving as project manager of the EID.

Ann M. Scott, PhD, RPA (continued)

Kegley Road – City of Temple, Bell County, TX
Serving as Principal Investigator, Dr. Scott supervised an archeological survey of approximately 12,000 linear feet of proposed city road improvements. A larger right of way study area was surveyed (55 acres) to allow for minor changes in the alignment. In addition to the cultural resources, Waters and Wetland Assessment and Biological Assessment were performed along the alignment in anticipation of US Army Corps of Engineers permitting. The project is on-going.

Northview School Project – Clay County, Missouri
Dr. Scott serves as Principal Investigator and Project Manager for the school expansion project in North Kansas City, Missouri. Dr. Scott performed a constraints analysis, SHPO coordination, and historical review of possible cemetery on the project site. She conducted an archaeological survey of the 100-acre parcel including an intensive site recording of an abandoned, pre-Civil War family cemetery. The school district and project engineers are currently revising construction plans to avoid disturbing the cemetery. The project received US Army Corps of Engineers (USACE) approval.

WETT (Wind Energy Transmission of Texas) Transmission Line Survey – Texas*
Dr. Scott served as Principal Investigator for a three-part, 375-mile transmission line project in 12 counties in west Texas. Approximately 100 sites, from Early Archaic to Late Prehistoric campsites, lithic procurement areas, and other site types to historic sites dating from the late 19th century to the mid 20th century were recorded. The project also required Phase II testing for National Register eligibility of several sites. Dr. Scott supervised about 10 team members on the project. Texas SHPO concurrence was received on all four reports and the project was approved for construction. Fee: $225,000

Broadband Technology Opportunity Program NEPA Environmental Assessments (EAs) and Federal Communications Commission compliance for broadband infrastructure projects for NTIA/BTOP and USDA/RUS – Oklahoma and Texas*
Dr. Scott acted as Project Manager for People's Telephone Cooperative, Inc. in north Texas, Texas A&M University, Region 18 Education Service Center in west Texas, VTX Telecom in south Texas, and Pine Telephone in Oklahoma. All cultural resources projects received federal approvals. Besides being Principal Investigator for the cultural resources projects, Dr. Scott managed the multi-disciplinary evaluations, NEPA EA document preparation, and agency coordination for the projects. Fee: $250,000

Testing and Data Recovery at 41TR203, The Mercado Site, North Tarrant Express, Segment 3A – Fort Worth, Texas*
As Principal Investigator for Segment 3A of the North Tarrant Express Tollway Project, Dr. Scott supervised testing-level and data recovery fieldwork at site 41TR203 along the North Trinity River located within the city limits of Fort Worth. Dr. Scott coordinated data recovery efforts with TxDOT and the Texas Historical Commission (THC) staff. She supervised eight to ten team members and managed the completion of the research designs, field excavation efforts for testing and data recovery, laboratory artifact processing and analyses, radiocarbon dating, subconsultants for paleobotany and geomorphology, and agency staff visits. Fee: $250,000

Loop 375 Border Highway, West Extension – El Paso County, Texas*
As Principal Investigator of the Loop 375 Border Highway West Extension, Dr. Scott performed mechanical scraping outside of Smelter Cemetery, archeological survey for work on federal land (US International Boundary and Water Commission [USIBWC]), and responded to unexpected discoveries. Because work was adjacent to BNSF and Union Pacific railroad rights-of-way, extra training and coordination was necessary to conduct the work. Similarly, because the work was being conducted on USIBWC land between Mexico and the United States, communication was critical with Immigration and Customs Enforcement. Coordination with TX State Historic Preservation Officer (SHPO), USIBWC, TxDOT and the tollway developer was ongoing throughout the project.

APPENDIX E
GENERAL COMMENTS

The City of Austin (COA) Environmental Resource Inventory (ERI) was performed in accordance with generally accepted scientific and engineering evaluation practices of this profession undertaken in similar studies at the same time and in the same geographical area. The limitations of this ERI should be recognized.

In conducting the limited scope of services described herein, certain sources of information and public records were not reviewed. The scope of this ERI was conducted in general accordance with the City of Austin's Land Development Code (LDC), Section 25-8-121 (A), and the City of Austin Title 30-5. The service's scope is not intended to be compliant or consistent with the State of Texas Edwards Aquifer Rule (30 TAC 213, Subchapter B; pertaining to Travis County, Texas) or the Texas Commission on Environmental Quality (TCEQ) Edwards Aquifer Protection Program. Field identification of Critical Environmental Features (CEFs) as defined by the COA can be seasonally influenced. Due to seasonal changes, Terracon cannot guarantee areas to exhibit or not to exhibit CEF characteristics at all times of the year.

CEF wetlands were evaluated using the USACE 1987 Manual and Great Plains Regional Supplement. The manuals provide assistance for identifying wetlands based on the three criteria discussed. However, the manuals alone may not have provided enough information to document whether or not the three criteria were met. Various physical properties or other visual signs used to evaluate whether the three wetland identification criteria areas were satisfied may not be straightforward, especially in disturbed or problem areas. The manuals also allow the user to visually estimate certain indicators, such as the percentage of area covered by dominant species for the entire community. Terracon did not attempt to identify every plant species and did not classify soil types by laboratory methods.

This report is for the exclusive use of the client and any relying government entities for the project being discussed. No warranties, either expressed or implied, are intended or made.